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E R R A T U M

to MCO P3500.15C

AVIATION TRAINING AND READINESS MANUAL, VOLUME 2, TACTICAL  
FIXED-WING (SHORT TITLE: T&R MANUAL, VOLUME 2)

1. For administrative purposes, the Publications Control Number (PCN) has been reidentified. Change the PCN "10203351500" to read: "10203350200".

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C 461A  
6 Jan 99

MARINE CORPS ORDER P3500.15C W/CH 1

From: Commandant of the Marine Corps  
To: Distribution List

Subj: AVIATION TRAINING AND READINESS MANUAL1 VOLUME 2,  
TACTICAL FIXED-WING, (SHORT TITLE: T&R MANUAL, VOLUME 2)

Encl: (1) Locator Sheet

1. Purpose. To revise training standard, procedures and policies regarding the training of tactical fixed-wing aircrews.

2. Cancellation. MCO P3500.15B.

3. Summary of Revision. Each chapter of this revision was substantially changed to incorporate the tenets of the Marine Aviation Campaign Plan. The major changes are as follows:

a. Each pilot chapter contains a unit template describing all like squadrons' core competencies, core and core plus skills, aircrews designations and required minimum instructor designations and numbers.

b. Simulator events are Combat Readiness Percentage (CRP) weighted.


c. All core skills are contained in the Combat Ready and Combat Qualification Phases of training. Core plus skills are in the Full-Combat Qualification Phase of training.

4. Reserve Applicability. This Manual is applicable to the Marine Corps Reserve.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

MCO P3500.15C  
6 Jan 99

5. Certification. Reviewed and approved this date.



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MARINE CORPS ORDER P3500.15C Ch 1

From: Commandant of the Marine Corps  
To: Distribution List

Subj: AVIATION TRAINING AND READINESS MANUAL, VOLUME 2,  
TACTICAL FIXED-WING, EA-6B SYLLABUS (SHORT TITLE: T&R  
MANUAL, VOLUME 2)

Encl: (1) New page inserts to MCO 3500.15C

1. Purpose. To transmit new page inserts to the basic Manual.
2. Action. Remove pages 2-1 through 2-88 of the Basic Manual and replace with pages 2-1 through 2-89 contained in the enclosure.
3. Summary of Changes. Chapter 2 for the EA-6B has been revised.
4. Filing Instructions. This change transmittal will be filed immediately following the signature page of the basic Manual.
5. Reserve Applicability. This Manual is applicable to the Marine Corps Reserve.
6. Certification. Reviewed and approved this date.



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## T&amp;R MANUAL, VOLUME 2

## RECORD OF CHANGES

Log completed change action as indicated.

[illegible]

LOCATOR SHEET

Subj: \_\_\_\_\_

Location: \_\_\_\_\_  
(Indicate location(s) of cop(ies) of this Manual.)

ENCLOSURE (1)

T&R MANUAL VOLUME 2

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6		KC-130 PILOT
7		KC-130 NAVIGATOR
8		KC-130 FLIGHT ENGINEER
9		KC-130 AIRBORNE RADIO OPERATOR (ARO) LOADMASTER (LM)
10		KC-130 FLIGHT MECHANIC

T&R MANUAL VOLUME 2

CHAPTER 1

AV-8B PILOT

CANCELED VIA MCO 3500.76



T&R MANUAL VOLUME 2

CHAPTER 2

EA-6B PILOT AND ELECTRONIC COUNTERMEASURES OFFICER (ECMO)

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\* \* NOTE \* \*

Aircrew coordination shall be briefed on all flights and/or events.

MARINE ELECTRONIC WARFARE SQUADRON EA-6B  
UNIT TEMPLATE

NOTE

The capabilities defined and described in the core capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgment of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the Commander to balance any increase in the depth of core capabilities against the long term health and readiness of his unit while staying within his resource constraints.

1. TABLE OF ORGANIZATION T/O SQDN= 5 ACFT, 8 PILOTS, 21 ECMOS (T/O 36 OFFICERS, 136 ENLISTED).

2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming at least 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situational dependent.

b. A core capable squadron will, over a 24 hour period, provide six sorties of mission capable aircraft with the following capabilities:

- Must be able to be flown either day or night.
- Four sorties can be flown in section or division.
- Four sorties will be capable of providing EW in support of Deep Air Support, Close Air Support, or Electronic Surveillance.
- Two sorties will be capable of providing EW in support of Force Protection.
- Will perform these missions from a main base or an appropriate size expeditionary air field.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew who are at least 75% complete in each listed core skill. (Note: If a squadron is < T/O, required numbers are reduced by a like %).

CORE SKILL	PILOT	ECMO
PREREQS	7	18
HARM	6	16
ES	6	16
DAS	6	14
RSEAD	6	14
FP	4	10
DEFTAC*	3	9
LAT	4	4

**T&R MANUAL, VOLUME 2**

4. **SORTIES (EVENTS) REQUIRED TO GAIN COMPETENCY IN CORE SKILLS.** An aircrew would be required to fly the following number of sorties (events) in each skill area to gain competency.

	PREREQS	HARM	ES	DAS	RSEAD	VAD
RAC Pilot	25	XX	XX	XX	XX	XX
Refresher Pilot	14	XX	XX	XX	XX	XX
RAC ECMO	12	1	2	2	XX	XX
Refresher ECMO	11	1	XX	1	XX	XX
T&R CODES *REFRESHER #ECMO	FAM 105-111, INST 117- 120, NAV 126-127, FORM 134-141, AR 144-145, CK 199, *FAM 105-106, FAM 110-111, INST 116, NAV 126, FORM 134, FORM 136 -139, FORM 140, AR 144- 145, CK 199, #FAM 112 -114, NAV 130-133, FORM 142-143, CK 199, #*FAM 112-114, NAV 128-131, FORM 142-143, CK 199	#EW 177 #*EW177	#EW 174-175	#EW 176, EW 178 #*EW 178		
	DEFTAC NOTE 1	LAT	TOTALS			
RAC Pilot	2	XX	27			
Refresher Pilot	2	XX	16			
RAC ECMO	2	XX	19			
Refresher ECMO	2	XX	15			
T&R CODES *REFRESHER #ECMO	DEFTAC 146-147 *DEFTAC 146-147 #DEFTAC 148-149 #*DEFTAC 148-149					

	PREREQS	HARM	ES	DAS	RSEAD	FP
1ST TOUR PILOTS	11 (15)	1 (3)	2 (2)	2 (4)	3 (5)	1 (2)
2ND TOUR PILOTS	10 (13)	1 (3)	2 (2)	2 (4)	2 (3)	1 (2)
1ST TOUR ECMOs	10 (13)	2 (5)	4 (6)	4 (7)	6 (10)	1 (3)
2ND TOUR ECMOs	9 (11)	2 (5)	4 (6)	4 (7)	4 (6)	1 (3)
T&R CODES *FIRST TOUR S-SIM P-PILOT ONLY E-ECMO ONLY	202, 203, 205, 206, 211, 220, 221, 222, 272, 300P, 204*, 200S, 201S*, 207SP, 210S	233, 234E, 230S, 231S, 232SE	242, 243E, 340, 341E, 240SE, 241SE	253, 254E, 350, 351E, 250S, 251S, 252SE	262*, 263E*, 362, 363E, 364, 365E, 260S*, 261SE*, 360S, 361SE	370, 270S, 271SE
	DEFTAC NOTE 1	LAT	TOTALS			
1ST TOUR PILOTS	3 (3)	3 (4)	26 (38)			
2ND TOUR PILOTS	3 (3)	3 (4)	24 (37)			
1ST TOUR ECMOs	3 (3)	3 (4)	33 (51)			
2ND TOUR ECMOs	3 (3)	3 (4)	30 (45)			
T&R CODES *FIRST TOUR	310, 311, 312	321, 322, 323, 320S				

4. SORTIES (EVENTS) REQUIRED TO GAIN COMPETENCY IN CORE SKILLS. An  
aircrew would be required to fly the following number of sorties  
(events) in each skill area to gain competency.

Ch-1

5. SORTIES (EVENTS) REQUIRED TO MAINTAIN CORE SKILLS. For each one year period after achieving competency, a pilot would be required to fly the following number of sorties (events) in each skill area to maintain that competency.

	PREREQS	HARM	ES	DAS	RSEAD	FP
1ST TOUR PILOTS	22 (32)	4 (6)	2 (2)	3 (5)	3 (4)	1 (3)
2ND TOUR PILOTS	22 (32)	4 (6)	2 (2)	3 (5)	3 (4)	1 (3)
1ST TOUR ECMOs	14 (24)	8 (12)	5 (9)	6 (9)	6 (8)	1 (4)
2ND TOUR ECMOs	14 (24)	8 (12)	5 (9)	6 (9)	6 (8)	1 (4)
T&R CODES S-SIM P-PILOT ONLY E-ECMO ONLY	202, 203, 205, 206, 211, 220, 221, 222, 272, 300P, 200S, 207SP, 210S, 600S, 601SE, 602S, 604S	233, 234E, 230S, 231S, 232SE	242, 243E, 340, 341E, 240SE, 241SE	253, 254E, 350, 351E, 250S, 251S, 252SE	363, 363E, 364, 365E, 360S, 361SE	370, 270S, 271SE

	DEFTAC*	LAT	TOTAL			
1ST TOUR PILOTS	2 (2)	4 (5)	41 (59)			
2ND TOUR PILOTS	2 (2)	4 (5)	41 (59)			
1ST TOUR ECMOs	2 (2)	4 (5)	46 (73)			
2ND TOUR ECMOs	2 (2)	4 (5)	46 (73)			
T&R CODES	310, 312, 313	321, 323, 320S				

6. FLIGHT LEADER/INSTRUCTOR QUALIFICATIONS. As a minimum, in order for a squadron to be considered Core Competent, it must possess the following numbers of aircrew in the listed flight leadership/instructor categories. (Note: If the squadron is < T/O, required numbers are reduced by a like %)

DESIGNATION	PILOTS	ECMO	REMARKS
SEC LDR	4	NA	INCLUDES DIV LEADS
DIV LDR	2	NA	
MSN CDR	4	10	MIN 50% OF ALL AIRCREW
FCF	3	5	
LATI	2	2	INCLUDES WTI #'S
DEFTACT*	2	2	INCLUDES WTI #'S
WTI	1	2	
LSO	2	NA	FIELD QUAL ONLY FOR EAF

7. SORTIES REQUIRED TO QUALIFY FOR DESIGNATION AS FLIGHT LD/IP

7. SORTIES REQUIRED TO QUALIFY FOR DESIGNATION AS FLIGHT LD/IP

	SEC LDR	DIV LDR	MSN CDR	ECF
SORTIES	4	3	13	1
T&R CODES *REFRESHER	324, 325, 326, 327, *622	328, 329, 330, *624	331, 332, 342, 343, 352, 353, 366, 367, 368, 369, 372, 373, 380, *650	603

	LATI	DEFTACT NOTE 1	WTI	LSO
SORTIES	4	7	NOTE 2	NOTE 3
T&R CODES *REFRESHER	520, 521, 522, 523	510, 511, 512, 513, 514, 515, 516		

1. CURRENT PREREQUISITES FOR WTI INCLUDE MISSION COMMANDER, LAT QUALIFIED, DEFTACT QUALIFIED, SECTION LEAD (PILOTS), DIVISION LEAD (PILOT).
2. THERE ARE NO SORTIES REQUIRED TO FIELD QUALIFY AN LSO, HOWEVER THE INDIVIDUAL DOES REQUIRE EVALUATION OF HIS PERFORMANCE DURING EAF/FCLP OPERATIONS.

## Ch-1

200. PROGRAMS OF INSTRUCTION (POI) FOR BASIC, TRANSITION PILOT AND ECMO, AND CONVERSION ECMO. EA-6B pilots and ECMO's will complete all Combat Capable training under training programs designed and administered by Commander, Electronic Warfare Wing Pacific (COMMVAQWINGPAC). Other training is administered through the tactical squadron.

### 1. Pilot

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-5	EW Introduction	NTTC Corry Station Training Squadron
6-39	Category I Flight Training (See par 241)	
39-51	Combat Ready Training	Tactical Squadron
52-64	Combat Qualification Training	Tactical Squadron
65-71	Full-Combat Qualification Training	Tactical Squadron

### 2. ECMO

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-12	EW Introduction	NTTC Corry Station Training Squadron
13-46	Category I Flight Training Syllabus (See par 241)	
47-63	Combat Ready Training	Tactical Squadron
64-76	Combat Qualification	Tactical Squadron
77-81	Full-Combat Qualification Training	Tactical Squadron

### 201. CONVERSION PILOT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-5	EW Introduction	NTTC Corry Station Training Squadron
6-32	Category II Flight Training Syllabus	
33-45	Combat Ready Training	Tactical Squadron
46-58	Combat Qualification Training	Tactical Squadron
59-63	Full-Combat Qualification Training	Tactical Squadron

### 202. POI FOR REFRESHER PILOT AND ECMO

1. Greater than 365 days(pilot)/485 days (ECMO) since last EA-6B flight.

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	NAMO	NAMTRAGRUDET Training Squadron
2-28	Category III Flight Training Syllabus (See par 241)	
29-36	Refresher Training	Tactical Squadron

2. If an individual has not flown an EA-6B flight in more than 30 days but less than or equal to 365 days, the commanding officer will designate proficiency flights, FAM-606 and selected 200 series flights, to refamiliarize refreshing aircrew. If an individual has not flown in 365 days, T&R, Volume 1 requirements for refresher training apply.



## 203. POI FOR PILOT AND ECMO INSTRUCTORS UNDER TRAINING (IUT)

### 1. Pilot and ECMO DEFTAC IUT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	IUT reviews DEFTAC lectures	Tactical Squadron
2	IUT presents designated lectures and practices briefing	Tactical Squadron
3-5	IUT fly's DEFTACI syllabus	Tactical Squadron /MAWTS-1

### 2. Pilot and ECMO LAT IUT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	IUT reviews LAT lectures	Tactical Squadron
2	IUT presents designated LAT lectures/practice briefing	Tactical Squadron
3-5	IUT flies LATI syllabus	Tactical Squadron /MAWTS-1

### 3. Pilot and ECMO NATOPS IUT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	IUT evaluated on SCHK-600	Tactical Squadron
2	IUT evaluates on SCHK-600 for instructor certification	Tactical Squadron

### 4. ECMO Back-Seat NATOPS IUT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	IUT evaluated on S/ACHK-601	Tactical Squadron
2	IUT conducts S/ACHK-601 for instructor certification	Tactical Squadron

### 5. Pilot and ECMO Instrument Evaluators Under Training (EUT)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	EUT evaluated on SCHK-602	Tactical Squadron
2	EUT completes SCHK-602 for Instr Eval certification	Tactical Squadron

## 210. GROUND TRAINING COURSES OF INSTRUCTION

<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
NAMONAMTRAGRUDET	
Defensive Tactics (DEFTAC)	Tactical Squadron
Low Altitude Tactics (LAT)	Tactical Squadron
Advanced Low Altitude Tactics	Tactical Squadron
Defensive Tactics Instructor (DEFTACI)	Tactical Squadron /MAWTS-1
Low Altitude Tactics Instructor (LATI)	Tactical Squadron /MAWTS-1
Aircrew Coordination Training Instructor	As Appropriate
Shipboard Aircraft Fire Fighting	As Appropriate
JEST	As Appropriate
SERE	As Appropriate
Weapons and Tactics Instructor (WTI)	MAWTS-1
Landing Signal Officer (LSO)	LSO School

## 211. SQUADRON LEVEL TRAINING

Operations/Squadron Flight SOP/T&R Manual In-brief  
TACSOP  
Aircrew Coordination Training  
Course Rules Brief/Exam  
Mission Commander Syllabus  
Electronic Warfare Support (ES)/TERPES  
Aerial Refueling Procedures  
Low Altitude Tactics (LAT) Lecture Series  
Defensive Tactics (DEFTAC) Lecture Series  
Basic Aircraft Maneuvering (BAM)  
Electronic Attack (EA) General Tactics  
Jammer Technique Optimization (JATO)  
Jamming Fundamentals  
ES General Tactics  
Fighter Tactics  
Reactive Suppression of Enemy Air Defenses (RSEAD)  
Electronic Warfare in support of Close Air Support (EWCAS)  
HARM Lectures  
MACCS  
War-at-Sea  
ACE SEAD Planning  
Expeditionary Airfield Operations  
Carrier Procedures  
EA-6B in support of Helicopter Operations  
EA-6B in support of the Ground Combat Element (GCE)  
USQ-113 Basic Operation  
USQ-113 Tactical Operations  
Bulk Chaff Tactical Employment  
Vital Area Defense  
National Asset Integration  
Multi-Mission Advanced Tactical Terminal (MATT)/Commanders Tactical  
Terminal (CTT)

NOTE: This list is not restrictive, lectures shall be given as deemed appropriate by the Commanding Officer.

## 212. TRAINING REFERENCES

Appropriate Marine Aircraft Wing Air Ops Manual  
Appropriate Marine Aircraft Wing SOP for EW  
VMAQ Squadron Operating Procedures  
EA-6B NATOPS Flight Manual  
Landing Signal Officer NATOPS  
NATOPS Instrument Flight Manual  
CV NATOPS Manual  
NATOPS General Flight and Operating Instructions  
NATOPS Air Refueling Manual  
EA-6B Tactical Manual, NWP-55-4-EA-6B  
Prowler Tactics Guide (Vol I-IV)  
HARM TACMAN  
SLATs Notebook  
MAWTS-1 Course Catalog  
MAWTS-1 Academic Support Package  
VAQ-129 Syllabus Guide  
EA-6B ICAP II Weapon System Operators Manual (WSOM)  
TEAMS System Operators Manual  
EA-6B Training Syllabus for the 2F143 Flight Simulator  
EA-6B Training Syllabus for the 15E22C Flight Simulator

AFTTP 3-1  
 TOPGUN Manual  
 VMAQ TACSOP

## 220. FLIGHT TRAINING: BASIC, TRANSITION, AND CONVERSION PILOT AND ECMO

1. Combat Capable Training. A flight/simulator description of the VAQ-129 training syllabus and its Marine Corps counterpart are provided in paragraph 241. FRS training provides 60.0 percent CRP (Combat Readiness Percentage) for the pilot and ECMO.

a.	Pilot	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	PERCENT
		52/23	91.5/46.0	60
b.	ECMO	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	PERCENT
		20/43	44.0/86.0	60

## 2. Combat Ready Training

### a. Pilot

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	PERCENT
Prerequisites			
Emergency Procedures	0/1	0.0/1.5	0.00/0.50
Navigation	4/1	6.8/1.5	2.75/0.30
Aerial Refueling	1/0	1.7/0.0	0.70/0.00
Familiarization	1/2	1.5/3.4	0.50/0.80
Tactical Formation	3/0	5.1/0.0	3.00/0.00
HARM	1/2	1.7/3.5	0.75/0.80
Electronic Warfare Support	1/0	1.7/0.0	1.00/0.00
Deep Air Support	1/2	1.7/3.5	1.00/0.80
Reactive SEAD	1/1	1.7/1.5	1.00/0.50
Force Protection	0/1	0.0/1.5	0.00/0.30
Fleet Electronic Protection	1/0	1.7/0.0	0.30/0.00
	14/10	23.6/16.4	11.0/4.0
Total	24	40.0	15.0

### b. ECMO

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	PERCENT
Prerequisites			
Emergency Procedures	0/1	0.0/1.5	0.00/0.50
Navigation	4/1	6.8/1.5	2.00/0.30
Aerial Refueling	1/0	1.7/0.0	0.25/0.00
Familiarization	1/1	1.5/1.7	0.50/0.30
Tactical Formation	3/0	5.1/0.0	1.75/0.00
HARM	2/3	3.4/5.0	1.00/1.50
Electronic Warfare Support	2/2	3.4/4.0	1.25/0.60
Deep Air Support	2/3	3.4/5.0	1.25/0.90
Reactive SEAD	2/2	3.4/3.0	1.00/1.00
Force Protection	0/2	0.0/3.0	0.00/0.60
Fleet Electronic Protection	1/0	1.7/0.0	0.30/0.00
	18/15	30.4/24.7	9.30/5.70
Total	33	55.1	15.00.

## Combat Qualification Training

## a. Pilot

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Prerequisites			
Aerial Refueling	1/0	1.7/0.0	0.50/0.00
Defensive Tactics (DEFTAC)	3/1	4.5/1.0	1.50/0.25
DEFTAC Section Leader Training	1/0	1.5/0.0	0.25/0.00
Low Altitude Tactics	3/1	4.5/1.5	1.50/0.25
Section Leader Training	4/0	6.8/0.0	2.00/0.00
Division Leader Training	3/0	5.1/0.0	1.50/0.00
Electronic Warfare Support	1/0	1.7/0.0	0.75/0.00
Deep Air Support	1/0	1.7/0.0	1.00/0.00
Reactive SEAD	2/1	3.4/1.5	1.75/1.00
Force Protection	1/0	1.7/0.0	1.00/0.00
Mission Commander Training	13/0	0.0/0.0	6.50/0.00
	33/3	32.6/4.0	18.25/1.50
Total	36	36.6	19.75

## b. ECMO

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Defensive Tactics (DEFTAC)	3/1	4.5/1.0	1.75/0.25
Low Altitude Tactics	3/1	4.5/1.5	1.50/0.25
Electronic Warfare Support	2/0	3.4/0.0	2.00/0.00
Deep Air Support	2/0	3.4/0.0	2.00/0.00
Reactive SEAD	4/2	6.8/3.0	3.50/1.00
Force Protection	1/0	1.7/0.0	1.00/0.00
Mission Commander Training	13/0	0.0/0.0	6.50/0.00
	28/4	24.3/5.5	18.25/1.50
Total	32	29.8	19.75

## 4. Full-Combat Qualification Training

## a. Pilot

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Prerequisites			
Aerial Refueling	1/0	1.0/0.0	0.50/0.00
Advanced DEFTAC	1/0	1.5/0.0	0.25/0.00
Advanced LAT	1/0	1.5/0.0	0.25/0.00
HARM	1/0	1.7/0.0	0.25/0.00
Electronic Warfare Support	1/0	1.7/0.0	0.50/0.00
Deep Air Support	2/0	3.4/0.0	0.75/0.00
Reactive SEAD	1/0	1.7/0.0	0.25/0.00
Deep Air Support	2/0	3.4/0.0	0.75/0.00
War at Sea Exercise	1/0	1.7/0.0	0.50/0.00
EAF Operations	2/1	2.0/1.5	0.50/0.25
FCLP	2/0	2.0/0.0	0.50/0.00
CQ	2/1	3.5/1.5	0.50/0.25
	15/2	21.7/3.0	4.75/0.50
Total	17	24.7	5.25

## b. ECMO

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Advanced DEFTAC	1/0	1.5/0.0	0.25/0.00
Advanced LAT	1/0	1.5/0.0	0.25/0.00
HARM	1/0	1.7/0.0	0.25/0.00
Electronic Warfare Support	1/0	1.7/0.0	0.50/0.00
Deep Air Support	2/0	3.4/0.0	0.75/0.00
Reactive SEAD	1/0	1.7/0.0	0.25/0.00
War at Sea Exercise	1/1	1.7/2.0	0.50/0.50
EAF Operations	2/1	2.0/1.5	0.50/0.25
FCLP	2/0	2.0/0.0	0.50/0.00
CQ	2/1	3.5/1.5	0.50/0.25
	14/3	20.7/5.0	4.25/1.00
Total	17	25.7	5.25
Syllabus Totals (100-400) Basic, Transition, Conversion (Flight/Simulator)			
Pilot	114/38	169.4/69.4	34.0/6.0 *40.00
ECMO	80/65	119.4/121.2	31.8/8.2 *40.00

\*Add to 60.00 from Combat Capable training for a total of 100.00.

## 221. REFRESHER PILOT AND ECMO TRAINING

1. If greater than or equal to 366 days (pilots)/486 days (ECMO's) since last EA-6B flight, VAQ-129 is the designated training squadron for refresher training, either category III, category IV or Safe-for-solo.

2. Pilots with greater than or equal to 366 days but less than or equal to 485 days since last EA-6B flight require FRS ground school, simulators and Safe-for-solo check. (See T&R, Vol. 1)

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
Warm-up/Proficiency	2/6	3.4/13.0

3. All aircrew with greater than or equal to 486 days but less than or equal to 730 days since last EA-6B flight require Category IV refresher training. This consists of ground school, simulators, 10 hours of flight time and NATOPS check.

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
FAM	4/6	10.0/13.0

4. All aircrew with greater than 730 days last EA-6B flight require Category III refresher training. A VAQ-129 flight/simulator syllabus description and it's Marine Corps counterpart are provided in paragraph 241.222.

## INSTRUCTOR UNDER TRAINING (IUT)

## 1. Pilot and ECMO DEFTAC IUT

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
DEFTAC IUT	6/1	9.0/1.5

## 2. Pilot and ECMO LAT IUT

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
LAT IUT	4/1	6.8/1.5

## 3. Pilot and ECMO NATOPS IUT

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
NATOPS IUT	2	3.0

## 4. ECMO Back-seat NATOPS IUT

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
Back-seat NATOPS IUT	2	3.0

## 5. Pilot and ECMO Instrument Evaluator Under Training (EUT)

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>
Instrument IUT	1	1.5

230. SIMULATOR TRAINING. The following simulator devices are currently in use: 2F143 (front-seat training device) and 15E22C (back-seat training device).

## 240. FLIGHT/EVENT/SIMULATOR PERFORMANCE REQUIREMENTS

1. The EA-6B training syllabus conducted at the VMAQ is oriented toward bringing the pilot/ECMO from a Combat Capable graduate of VAQ-129 to Full Combat Qualification while maintaining core skills and capabilities. Refly interval and combat readiness percentage are shown in figures 2-1 and 2-3.

2. There are provisions in the VMAQ syllabus to warm-up/refresh aircrew who have not flown the EA-6B for up to 12 months. Initial NATOPS qualification or refresher training for aircrewmembers out of the EA-6B for more than 12 months is prescribed in T&R, Volume 1 and delineated in paragraph 221 and 241.

3. The sequence of flight training for initial qualification progresses in a systematic manner and should be accomplished in order.

4. The effective operation and employment of the on-board system (OBS) and tactical jamming system (TJS), is as important as developing good airmanship skills in the ECMO 1 position. Proper management of the EW sorties is critical in ensuring that once the EA-6B is positioned on station the ECMO is capable of employing the weapons system and the pilot fully understands his role in optimizing the aircraft's capabilities.

## 241. COMBAT CAPABLE TRAINING: PILOT AND ECMO

1. General. Combat Capable training is conducted at VAQ-129, NAS Whidbey Island. The training consists of ground school, simulators, and aircraft flights. A detailed description of each stage of training may be found in the VAQ-129 Course Catalog. The following lists for pilots and ECMO's were developed by the syllabus sponsor to correlate VAQ-129 flights with the Marine Corps training and readiness manuals. Navy designations appear first, T&R equivalents and the descriptive titles follow. Note: \* Represents Category III (Refresher) syllabus.

### 2. Category I Pilot

#### a. Familiarization (5 Periods/2F143; 7 Flights/EA-6B)

USN	USMC	Duration	Description
*PW 1	SFAM-100	2.0	Normal Cockpit Procedures
*PW 4	SFAM-101	1.5	Emergency Procedures I
*PW 5	SFAM-102	1.5	Emergency Procedures II
*PW 6	SFAM-103	1.5	Emergency Procedures III
*PW 8	SFAM-104	2.0	Stalls/Spins/Out-of-Control Procedures
*PF 1	FAM-105	2.5	FAM Introduction
*PF 2	FAM-106	2.5	FAM Intro (Stalls)
PF 3	FAM-107	2.5	FAM Landing Pattern
PF 4	FAM-108	2.5	FAM Aerobatics
PF 6	FAM-109	2.5	Safe-for-ECMO
*PF 12	FAM-110	2.5	FAM/Aerobatics/HARM
*PF 23	FAM-111	1.5	Basic Aircraft Maneuvering

#### b. Instruments/Navigation (3 Periods/2F143; 7 Flights/EA-6B)

*PW 2	SINST-115	2.0	Instrument Navigation
*PW 3	SNAV-122	2.0	RADAR Navigation
*PW 7	SNAV-123	2.0	Degraded Navigation
*PF 7	INST-116	2.5	Night Instruments I
*PF 10	NAV-126	2.0	Low Level/Aerobatics
PF 13	NAV-127	2.5	Low Level Navigation
PF 17	INST-117	2.5	Night Instruments II
PF 19	INST-118	2.5	Night Instruments III
PF 26/27	INST-119/120	2.5	Airways Instrument Nav I/II

#### c. Formation (8 Flights/EA-6B)

*PF 5	FORM-134	2.5	Day Formation I
PF 8	FORM-135	2.5	Day Formation II
*PF 9	FORM-136	2.5	Night Formation
*PF 14	FORM-137	2.5	Tactical Formation
*PF 15	FORM-138	2.5	Section Low Level Navigation
PF 16	FORM-139	3.0	Section Low Level Tactics II
*PF 18	FORM-140	2.5	Division Formation
PF 22	FORM-141	3.0	Division Low Level/Tactics

#### d. Aerial Refueling (2 Flights/EA-6B)

*PF 20	AR-144	2.5	Low Level/Day Tanking
*PF 21	AR-145	1.5	Night Aerial Refueling

## e. Defensive Tactics (2 Flights/EA-6B)

*PF 24	ACM-146	1.5	Defensive Tactics I
*PF 25	ACM-147	1.5	Defensive Tactics II

## f. Electronic Warfare/Special Weapons Delivery (4 Periods/15E22C; 1 Period/2F143)

*PT 1	SEW-150	2.0	TJS Operations and Computer Displays
*PT 2	SEW-151	2.0	Introduction to Jammers
*PT 3	SEW-152	2.0	DECM
PT 4	SEW-153	2.0	Integrated Mission Introduction
*PW 10	SSWD-180	2.0	HARM

## g. Carrier Qualification (2 Periods/2F143; 18 Flights/EA-6B)

*PW 13	SCQ-190	2.0	Carrier Landing Trainer I
*PW 14	SCQ-190	2.0	Carrier Landing Trainer II
*PF 28-31	CQ-191	4.0	Day FCLP's
*PF 32-42	CQ-192	10.0	Night FCLP's
*PF 50-51	CQ-193	5.0	Day CV Qualification
*PF 52-53	CQ-194	5.0	Night CV Qualification

## h. Instrument and NATOPS Evaluations (3 Periods/2F143; 1 Flight/EA-6B)

*PW 9	SCK-195	2.0	Instrument Check
*PW 11	SCK-196	2.0	Low Level/NATOPS Warm-up
*PW 12	SCK-197	2.0	Simulator NATOPS Check
*PF 11	CK-199	2.5	NATOPS Check

## 3. Category I ECMO

## a. Familiarization (5 Periods/2F143; 3 Flights/EA-6B)

*NW 1	SFAM-100	2.0	Normal Cockpit Procedures
*NW 4	SFAM-101	1.5	Emergency Procedures I
*NW 5	SFAM-102	1.5	Emergency Procedures II
*NW 6	SFAM-103	1.5	Emergency Procedures III
*NW 8	SFAM-104	2.0	Stalls/Spins/Out-of-Control Procedures
*NF 1	FAM-112	2.5	Familiarization/Normal Procedures
*NF 2	FAM-113	2.5	Instrument Procedures/Aerobatics
*NF 12	FAM-114	1.5	Basic Aircraft Maneuvering

## b. Instruments/Navigation (3 Periods/2F143; 6 Flights/EA-6B)

*NW 2	SINST-121	2.0	Instrument Scan
*NW 3	SNAV-124	2.0	Radar Navigation I
*NW 7	SNAV-125	2.0	Degraded Navigation
*NF 3	NAV-128	2.5	Radar Navigation I/HARM
*NF 4	NAV-129	2.5	Radar Navigation II/ Degraded Navigation I
*NF 5	NAV-130	2.5	Radar Navigation III
*NF 8	NAV-131	2.5	Low Level Navigation
NF 9	NAV-132	2.5	Section Low Level Navigation
NF 10	NAV-133	2.5	Radar Navigation IV/ Degraded Navigation II



## c. Formation (2 Flights/EA-6B)

*NF 6	FORM-142	2.5	Day Formation
*NF 7	FORM-143	2.5	Tactical Formation

## d. Aerial Refueling (1 Period/2F143)

*NW 10	SAR-144	2.0	Case I and II/In-flight Refueling
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## e. Defensive Tactics (2 Flights/EA-6B)

*NF 13	ACM-148	1.5	Defensive Tactics I
*NF 13b	ACM-149	1.5	Defensive Tactics II

## f. Electronic Warfare/Special Weapons Delivery (19 Periods/15E22C; 5 Flights/EA-6B; 1 Period/2F143)

*NT 1	SEW-154	2.0	TJS Operations and Computer Displays
*NT 2	SEW-155	2.0	System Initialization/Receiver Calibration
*NT 3	SEW-156	2.0	Signal Acquisition/ID III
*NT 4	SEW-157	2.0	TJS Pods/Jammer Assignments
*NT 5	SEW-158	2.0	Jammer Adjustments
*NT 6	SEW-159	2.0	Full System Mission I
*NT 7	SEW-160	2.0	Test Mode
*NT 8	SEW-161	2.0	Degraded Operations
*NT 9	SEW-162	2.0	HARM Operations
*NT 10	SEW-163	2.0	Full System Mission II
NT 11	SEW-164	2.0	ESM Mission/C3I
NT 12	SEW-165	2.0	ASUW I
NT 13	SEW-166	2.0	ASMD/CTTG
NT 14	SEW-167	2.0	SEAD/Power Projection I
*NT 15	SEW-168	2.0	EW CAS
*NT 16	SEW-169	2.0	Power Projection II
*NT 17	SEW-170	2.0	Brown Water Operations
*NT 18	SEW-171	2.0	SEAD/Power Projection III
*NT 19	SEW-172	2.0	SEAD/Power Projection IV
*SF 1	EW-174	2.5	ES Methods/War-At-Sea
*SF 2	EW-175	2.5	ES Methods/ASMD
SF 3	EW-176	3.0	Power Projection
*SF 4	EW-177	3.0	HARM Procedures
*SF 5	EW-178	3.0	Power Projection Graduation Mission
*NW 12	SSWD-180	2.0	HARM

## g. Carrier Qualification (1 Period/2F143; At Least 1 Flight/EA-6B)

*NW 11	SCQ-190	2.0	Case III Procedures/CV Emergencies
*NF 14	CQ-191	1.0	Day FCLP

## h. Instrument and NATOPS Evaluations (1 Period/15E22C; 3 Periods/2F143; 1 Flight/EA-6B)

*NW 9	SCK-195	2.0	Instrument Check
*NW 13	SCK-196	2.0	Simulator NATOPS Warm-up
*NW 14	SCK-197	2.0	Simulator NATOPS Check
*NT 20	SCK-198	2.0	ALQ-99/TJS NATOPS Check
*NF 11	CK-199	2.5	NATOPS Evaluation242.

## 242 COMBAT READY TRAINING: PILOT AND ECMO

## 1. Ground Training.

a. Purpose. To provide the necessary ground instruction to successfully complete flights in this phase.

b. General. This ground instruction is designed to develop the knowledge required for proficiency in the combat ready training syllabus. These courses should be complete prior to flight in the combat qualification phase. Prerequisite lectures will be annotated in Ground Training subparagraph portion of the specific skill area.

## c. Lectures.

- (1) Course Rules
- (2) TACSOP
- (3) WING/GROUP/SQUADRON SOP
- (4) Base Air Ops manual
- (5) HARM Lectures
- (6) Aerial refueling
- (7) LAT lectures
- (8) Mission Commander Program
- (9) Aerodynamics
- (10) BM
- (11) DEFTAC lectures
- (12) EA General Tactics
- (13) JATO
- (14) Jamming Fundamentals
- (15) ES General Tactics
- (16) EWCAS

## 2. Emergency Procedures.

a. Purpose. To review and practice emergency procedures (EPs) in the ground, takeoff, in-flight, and landing phases. To develop crew coordination skills specific to emergencies. To refresh aircrew with the aircraft systems/limits, and the decision making involved in problem solving.

b. General. These simulators are designed to provide aircrew proficiency in dealing with emergencies. Emphasis is placed on immediate action items in NATOPS, situational awareness, aircraft limits/systems and crew coordination.

c. Ground Training. Aircrew shall complete a monthly written EP quiz.

## d. Simulator Training (1Period, 1.5 Hours)

SEP-200      1.5      T,C,R    2F143 S

Goal. Maintain pilot/ECMO proficiency in dealing with ground/takeoff, inflight, and landing emergencies.

Requirement. Accurately respond to the aforementioned emergencies. The pilot and ECMO 1 should switch positions, time permitting. Complete the following:

Performance standards. IAW NATOPS:

- (1) Respond to ground emergencies.
- (2) Respond to takeoff emergencies.
- (3) Respond to in-flight emergencies.
- (4) Respond to landing emergencies
- (5) Spin recovery procedures.
- (6) Out of control flight procedures.

### 3. Navigation

a. Purpose. To review and practice visual and radar navigation procedures and navigation system integration. To develop crew coordination skills required for successful mission completion during day and night conditions.

b. General. These sorties are designed to develop and increase proficiency in all skill areas required for tactical navigation. Emphasis is placed on situational awareness, navigational accuracy, degraded operations of the navigation system, timing, and fuel computation.

#### c. Pilot/ECMO Simulator Training (1 Period, 1.5 Hours)

SNAV-201      1.5      T,C,R    2F143 S

Goal. Maintain pilot/ECMO proficiency in day EA-6B radar and navigation system integration. Be able to identify and accurately deal with navigation system failures. Expose the pilot/ECMO to local course rules and squadron operating procedures.

Requirement. Local area radar sortie. Complete one TA CAN approach and one precision approach to a local airfield. Accurately deal with the following navigation (NAV) system failures using Airmass (AM), Stand Alone (SA), and Dead Reckoning (DR) modes:

- (1) Tactical Computer (TC) failure.
- (2) Air Data Computer (ADC) failure.
- (3) Inertial Navigation System (INS) failure.
- (4) A/D Converter failure.
- (5) TACAN update.
- (6) Radar update.
- (7) GPS procedures.
- (8) ASN-50 failure.

Performance Standards. IAW NATOPS and Instrument Flight Manual

Crew. Pilot/ECMO 1.

#### d. Pilot/ECMO Flight Training (4 Flights, 6.8 Hours)

NAV-202      1.7      T,C,R    EA-6B A

Goal. Maintain pilot/ECMO proficiency in day radar navigation and EA-6B radar navigation system integration.

Requirements. May be flown on a published IR Military Training Route (MTR) or squadron approved route. No lower than 1000 ft AGL.

Performance Standards. Complete the following:

- (1) Conduct 1/4 of the route in AM.
- (2) Conduct 1/4 of the route in DR.
- (3) Multiple updates.
- (4) Calculate mission completion fuel.
- (5) Navigation system accuracy within +10 secs.
- (6) Can be flown in IFR conditions.

Crew. Pilot/ECMO 1.

NAV-203 1.7 T,C,R 1 EA-6B A N

Goal. Maintain pilot/ECMO proficiency in night radar navigation and EA-6B radar navigation system integration.

Requirements. Same as for NAV-202 except conducted at night.

Performance Standards. Same as NAV-202

Crew. Pilot/ECMO 1.

NAV-204 1.7 T,C,R 1 EA-6B A

Goal. Maintain pilot/ECMO proficiency in visual low level navigation.

Requirements. Conducted on a suitable MTR; 1000 ft AGL minimum altitude.

Performance Standards. Complete the following:

- (1) Navigate using timing, visual references, and calculated headings.
- (2) Full navigation system.
- (3) TOT/JOT +10 seconds.
- (4) Calculate mission completion fuel.

Crew. Pilot/ECMO 1.

NAV-205 1.7 T,C,R 1 EA-6B A

Goal. Maintain proficiency in day, radar, and visual navigation utilizing a high-low-high profile.

Requirements. Suitable MTR; no lower than 1000 ft AGL. Emphasis is on accurate navigation with a degraded system.

Performance Standards. Complete the following:

- (1) Conduct half of the low level in AM and at least 3legs of the low level in DR.
- (2) Execute multiple updates.
- (3) Maintain NAV system accuracy to within 2nm at the target.
- (4) TOT/JOT +10 seconds.
- (5) Calculate mission completion fuel.

Crew. Pilot/ECMO 1.

Prerequisites. NAV-204.

#### 4. Aerial Refueling

a. Purpose. To introduce the Pilot/ECMO to aerial refueling procedures.

b. General. The type of aircraft utilized for aerial refueling shall be determined by mission requirements.

c. Ground Training. Aircrew shall receive all applicable aerial refueling lectures prior to flight in this stage.

AR-206 1.7 T,C,R 1 EA-6B A

Goal. Introduce/practice the techniques/procedures for day high altitude tanking.

Requirements. May be flown in conjunction with any other scheduled mission. NATOPS Aerial Refueling Manual provides further guidance.

Performance Standards. Complete the following:

- (1) Brief aerial refueling emergencies.
- (2) Execute the proper:
  - (a) Communications procedures
  - (b) Tanker rendezvous
  - (c) Aerial refueling procedures/techniques
  - (d) Departure from tanker
- (3) 4 plugs (wet or dry) for initial/refresher aircrew.
- (4) 1 plug required for currency.

Crew. Pilot/ECMO 1.

External Support. Aerial refueling platform; KC-130, 135 etc.

## 5. Familiarization

a. Purpose. To introduce the pilot and ECMO to the flight characteristics and maneuvering capabilities of the EA-6B. To introduce the pilot to the back seat operating characteristics.

b. General.

(1) The FAM-207 is designed to familiarize the pilot with ECMO responsibilities and the procedures required to operate the OBS. FAM-207 may be conducted in either the EA-6B or the 15E22C.

(2) FAM-211 may be flown in conjunction with other sorties. Only a designated Defensive Tactics Instructor (DEFTACI) shall be the flight instructor for the initial FAM-211 and when currency/proficiency lapses. For SFAM-210, the ECMO shall fly the trainer for at least three spins/out-of-control flight maneuvers. The DEFTACI may sit at the instructor's console or in the simulator. ACM Training Rules 0 apply for these events and must be briefed as per T&R Manual, Volume 1 and [OPNAV 3710.7](#).

(3) Emphasis is on preparing the aircrew for progression to DEFTAC qualification. The maneuvers outlined in these sorties should point out the EA-6B's maneuvering characteristics and how they apply to the air-to-air environment.

c. Ground Training. MAWTS-1 EA-6B BAM lecture will be completed prior to any sorties in this stage.

## d. Pilot/ECMO Simulator training (2 Periods, 3.4 Hour)

SFAM-207 1.7 T,C,R 15E22C/1 EA-6B S

Goal. Introduce the pilot to OBS and HARM procedures.Requirements. May be conducted in the airplane.

Performance Standards. Complete the following:

- (1) Load of the Tactical Computer (TC), Display Processor (DP), and all required mission libraries.
- (2) Review various computer displays.
- (3) Review software tree.
- (4) Review various jammer assignments.
- (5) Hardware checks.
- (6) Pod radiation.
- (7) HARM procedures.
- (8) Built-in-Tests (BITs).
- (9) Degraded operations.
- (10) Basic signal analysis.
- (11) Software checks.

Crew. Pilot.

SFAM-210 1.7 T,C,R 1 EA-6B S

Goal. To introduce the pilot and ECMO to the flight characteristics and maneuvering capabilities of the EA-6B.Requirements. Knowledge of the FAM-211 maneuvers outlined in the MAWTS-1 DEFTAC syllabus. Overhead maneuvers are required. Overheads may be accomplished in sequence, i.e., squirrel cage. Performance Standards. Complete the following:

- (1) Acceleration Demo.
- (2) 1 G Approach-to-Stall and Recovery.
- (3) 2 G Approach-to-Accelerated Stall and Recovery.
- (4) Rolling G / Stab Aug Demo.
- (5) Break and Hard Turns at 10,000 ft. MSL.
- (6) Nose High Unusual Attitude and Recovery.
- (7) Break and Hard Turns at 20,000 ft. MSL.
- (8) Nose Low Unusual Attitude and Recovery.
- (9) Dynamic Zoom / Transient Wing Drop.
- (10) Slice Turn.
- (11) Confidence Maneuvers:
  - Flaperon Roll
  - Wingover
  - Barrel Roll
- (12) Overhead Maneuvers:
  - Loop
  - 1/2 Cuban Eight
  - Immelmann
  - Split S
- (13) SAM Evasive Maneuver.
- (14) 50% Rule recoveries from 15,000 and 10,000 ft. MSL, to no lower than 2,000 ft. AGL using the dive recovery rules.
- (15) Multiple departures/out-of-control flight/spins. ECMOs shall fly the simulator for at least three departures/out-of-

control/spins maneuvers.

Performance Standards. IAW NATOPS and applicable TAC Manuals.

Prerequisites. Aerodynamics and BAM lectures.

Crew. Pilot and/or ECMO 1 and DEFTACI.

e. Pilot/ECMO Flight Training (1 Flight, 1.5 Hours)

FAM-211 1.5 T,C,R E 1 EA-6B A

Goal. Introduce/practice maneuvers designed to familiarize the Pilot/ECMO with flight characteristics and maneuvering capabilities of the EA-6B.

Requirements. Knowledge of the FAM-211 maneuvers outlined in the MAWTS-1 DEFTAC syllabus. Overhead maneuvers are recommended and shall be completed at aircraft gross weights at or below 45,000 pounds. When configured with external fuel tanks, they shall be empty before commencing overheads. Overheads may be accomplished in sequence, i.e., squirrel cage. For refresher, requirements 3,4,5 may be omitted.

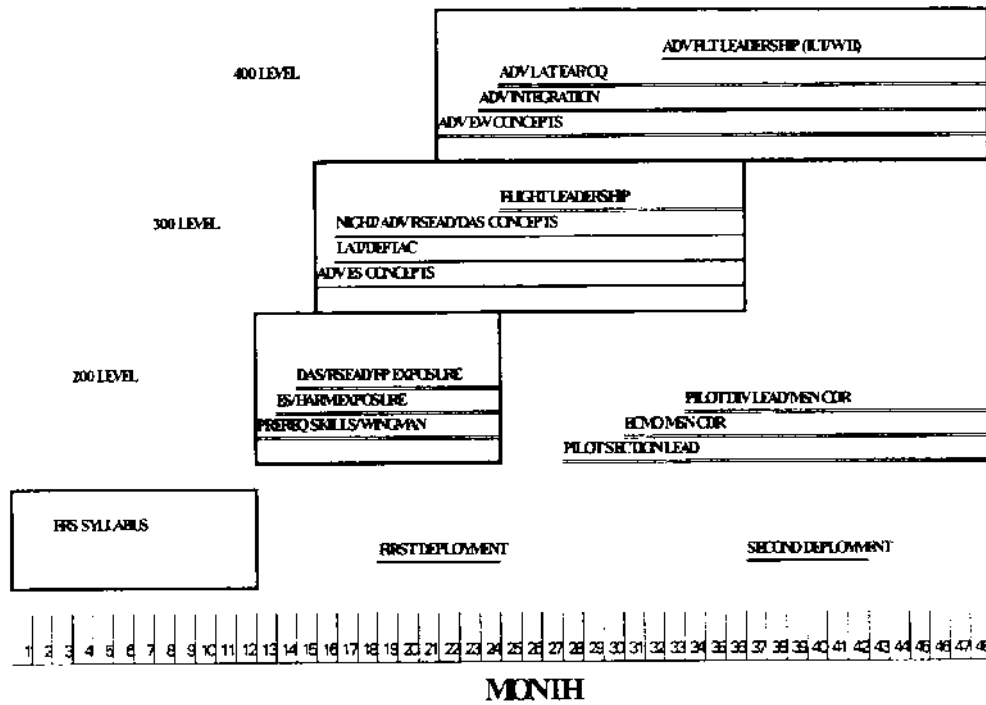
Performance Standards. Complete the following:

- (1) Acceleration Demo.
- (2) 1 G Approach-to-Stall and Recovery.
- (3) 2 G Approach-to-Accelerated Stall and Recovery.
- (4) Rolling G / Stab Aug Demo.
- (5) Break and Hard Turns at 10,000 ft. MSL.
- (6) Nose High Unusual Attitude and Recovery.
- (7) Break and Hard Turns at 20,000 ft. MSL.
- (8) Nose Low Unusual Attitude and Recovery.
- (9) Dynamic Zoom / Transient Wing Drop.
- (10) Slice Turn.
- (11) Confidence Maneuvers:
  - Flaperon Roll
  - Wingover
  - Barrel Roll
- (12) Overhead Maneuvers:
  - Loop
  - 1/2 Cuban Eight
  - Immelmann
  - Split S
- (13) SAM Evasive Maneuver.
- (14) 50% Rule recoveries from 15,000 and 10,000 ft. MSL, to no lower than 2,000 ft. AGL using the dive recovery rules.

Crew. Pilot or ECMO 1 and DEFTACI (initial only).

Prerequisites. SFAM-210.

# EA-6B CORE PROGRESSION MODEL





## 6. Tactical Formation

a. Purpose. To review basic section air-work and to introduce the aircrew to tactical formation (TACFORM).

b. General. FORM-220 and 222 are meant to be a build-up for the DEFTAC and LAT phase. The ability to recognize and execute the tactical turns on FORM-220 is a prerequisite for conducting them in the low altitude environment on FORM-222. TACFORM is conducted to allow formation navigation with mutual support. TACFORM is not a low altitude Max. 'G' exercise. Emphasis should be on turn recognition and lookout in the comm out environment.

c. Ground/Academic Training. LAT III (Section Maneuvering) and LAT IV (Advanced Maneuvers) lectures shall be completed prior to flight in this stage.

d. Pilot/ECMO Flight Training (3 Flights, 5.1 Hours)

FORM-220 1.7 T,C,R 2 EA-6B A

Goal. Introduce/practice day formation work.

Requirements. Review the tactical turns outlined in the MAWTS-1 LAT Syllabus. Tactical turns will not be conducted below 5,000 ft AGL. 'G' Awareness and FOD check maneuvers will be completed prior to tactical maneuvering.

Performance Standards. Complete the following:

- (1) Section takeoff, 10 sec. or simultaneous.
- (2) NATOPS TACAN/ADF rendezvous.
- (3) NATOPS breakup and rendezvous.
- (4) Section maneuvering utilizing Defensive Combat Spread and Fighter Wing. Section maneuvering in preparation for low level TACFORM (below 5,000 ft. AGL) uses the same formations but without wingman descending below the lead's altitude.
- (5) Complete the following turns IAW MAWTS-1 LAT syllabus:
  - (a) NAV turn into/away
  - (b) TAC turn into/away
  - (c) Shackle turn
  - (d) CROSS turn
  - (e) IN PLACE turn into/away
- (6) NATOPS/unit SOP section approach/missed approach procedures.
- (7) Unit SOP section landing recommended.

Crew. Pilot/ECMO 1.

FORM-221 1.7 T,C,R 2 EA-6B A N

Goal. Review/practice EA-6B night formation flight and procedures.

Requirements. Complete the following:

- (1) Section takeoff.
- (2) NATOPS TACAN/ADF rendezvous recommended.
- (3) Break-up and rendezvous as lead and wing.
- (4) Section approach/missed approach procedures as lead and wing.

Performance Standards. IAW NATOPS

Crew. Pilot/ECMO 1.

Prerequisites. A formation flight must have been flown within the last 60 days. A night flight must have been flown within the last 45 days.

FORM-222 1.7 T,C,R E 2 EA-6B A

Goal. Introduce section tactical navigation, tactical turns, and mutual support in the low-altitude environment.

Requirements. Flown on a suitable MTR, or certified route, no lower than 1000 ft AGL. Tactical turns will be IAW the MAWTS-1 LAT Syllabus. Lead will be exchanged during the low level portion to provide equal training for both aircrews. 'G' Awareness and FOD check maneuvers will be completed prior to tactical maneuvering. Introduce/practice section maneuvering/formations.

Performance Standards. Complete the following turns IAW MAWTS-1 LAT syllabus:

- (1) NAV into/away
- (2) TAC into/away
- (3) Shackle
- (4) Cross-turn
- (5) In-place into/away

Crew. Pilot/ECMO 1.

Prerequisites. NAV-204, FORM-220.

## 7. HARM employment.

a. Purpose. To introduce the aircrew to the coordination and system/airplane requirements for timely and accurate HARM delivery.

b. General. THARM-230 is a TUT planning mission only and shall be completed prior to SHARM-231,232. HARM-233, 234 can be flown in conjunction with other missions. SHARM-231, 232 are comprehensive trainers and shall be an evaluation of the techniques/procedures required for HARM employment. Emphasis should be placed on mission planning, tailoring libraries, reactive shots and timing.

c. Ground/Academic Training. The following squadron level lectures should be accomplished prior to flight in this stage:

- (1) MAWTS-1 HARM lecture series.

d. HARM Mission Planning (1 Period, 2.0 Hours)

THARM-230 2.0 T,C,R 1 TUT S

Goal. Introduce/practice HARM planning on the Teams Upgrade Terminal (TUT).

Requirements. Complete the following:

- (1) Plan a minimum of 3 HARM shots:
  - (a) Deconflicting geometrically
  - (b) Deconflicting parametrically

- (c) Utilizing MME/MNT  
(2) Utilize 3 different profiles (PB, RK, RU) for each shot, comparing time of flights (TOF), launch points, fields of view, probability of hit footprints (POHF), ETC.  
(3) Discuss friendly emitter deconfliction.

Performance Standard. To be evaluated during execution on SHARM missions.

Crew. Pilot and ECMO 1/2/3.

e. Pilot/ECMO Simulator Training (2 Period, 3.0 Hours)

SHARM-231 1.5 T,C,R E 2F143 S

Goal. Introduce Pilot and ECMO 1 to HARM employment procedures.

Requirements. Shall be completed using integrated simulators with SHARM-232. THARM-230 scenario and planning shall be employed.

Performance Standards. Complete the following:

- (1) Execute multiple HARM launches utilizing various modes (PB, RK, RU)
- (2) Meet timing/routing requirements.
- (3) Proper crew coordination with respect to pre and post-launch responsibilities.
- (4) Perform ABL procedures.
- (5) Employ missile with various system malfunctions.
- (6) Shots in AM and DR.
- (7) Review abort codes.
- (8) Practice hung ordnance approach procedures.

Crew. Pilot and ECMO 1.

Prerequisites. THARM-230.

SHARM-232 1.5 T,C,R E 15E22C S

Goal. Introduce ECMO 2/3 to HARM employment procedures.

Requirements. Utilize THARM-230 scenario. May be flown using integrated simulator with SHARM-231.

Performance Standards. Complete the following:

- (1) Execute multiple HARM launches utilizing various modes (PB, RK, RU)
- (2) Develop target packages using Target Hook, Emitter Hook, OP Create, and ELINT modifications.
- (3) Perform ABL procedures.
- (4) Practice proper crew coordination with respect to pre and post-launch responsibilities.
- (5) Employ missile with various system malfunctions.

Crew. ECMO 2/3.

Prerequisites. THARM-230.

f. Pilot/ECMO Flight Training (Pilot: 1 Flight, 1.7 Hours;  
ECMO 2 Flights, 3.4 Hours)

HARM-233 1.7 T,C,R 1 EA-6B A

Goal. Practice HARM employment procedures for Pilot and  
ECMO1.

Requirements. May be flown in conjunction with other  
missions.

Performance Standards. Complete the following:

- (1) Integrate HARM shot into SEAD gameplan.
- (2) Navigate to launch point within 3 nm.
- (3) Meet HARM launch timing +10 seconds.
- (4) Meet HARM TOT +10 seconds.

Crew. Pilot and ECMO1.

Ordinance. Captive AGM-88 Block III or IV.

HARM-234 1.7 T,C,R 1 EA-6B A

Goal. Practice HARM employment procedures for ECMO 2/3.

Requirements. May be flown in conjunction with other  
missions.

Performance Standards. Complete the following:

- (1) Integrate HARM shot into SEAD gameplan.
- (2) Navigate to launch point within 3 nm.
- (3) Meet HARM launch timing +10 seconds.
- (4) Meet HARM TOT +10 seconds.

Crew. ECMO 2/3.

Ordinance. Captive AGM-88 Block III or IV.

## 8. Electronic Warfare Support.

a. Purpose. Introduce and practice ES procedures and TERPES  
integration.

b. General. SES-240, 241 are designed to increase the signal  
recognition and identification proficiency in a dense electromagnetic  
environment. ES-242, 243 should be flown against an EW range with real  
world signals. To the greatest extent possible, ES-242, 243 should  
include an S-2 intel. scenario/brief/debrief and TERPES brief/debrief.

c. Ground/Academic Training. The following squadron level lectures  
should be accomplished prior to flight in this stage:

- (1) ES General Tactics.
- (2) HARM as a sensor.

d. ECMO Simulator Training (2 Periods, 4.0 Hours)

SES-240 2.0 T,C,R 15E22C S

Goal. Review the procedures necessary to properly conduct  
the OBS Built-in-Tests (BITs). Increase ECMO signal  
recognition

capabilities of EW/GCI/ACQ/FC/TT/IL/AI radar signals.

Requirements. Identify EW/GCI/ACQ/FC/TT/IL/AI radar signals and respond to system malfunctions. Review general radar characteristics as per function.

Performance Standards. Complete the following:

- (1) System power-up and initialization.
- (2) Recorder operations.
- (3) OBS and A/D Converter BITs.
- (4) Identify, localize, and record signals of interest.
- (5) Recorder initialize.
- (6) Library activation.
- (7) FR-AZ initialize.
- (8) GEO initialize.
- (9) Practice degraded modes of operation.

Crew. ECMO 2/3.

SES-241      2.0      T,C,R    15E22C S

Goal. Increase ECMO signal recognition capabilities in a dense electromagnetic environment.

Requirements. Identify/localize signals of interest and respond to system malfunctions.

Performance Standards. Complete the following:

- (1) Identify, localize, and record signals of interest in a dense signal environment.
- (2) Coordinate NAV track for ES optimization.
- (3) Properly initialize the OBS to maximize the ES effort.
- (4) Maintain ES logs, focusing on SOI.
- (5) Reference EPL for SOI characteristics.
- (6) Introduce coord. with National Assets.
- (7) Introduce MATT/CTT integration.

Crew. ECMO 2/3.

e. Pilot/ECMO Flight Training (Pilot 1 Flight, 1.7 Hours; ECMO 2 Flights, 3.4 Hours)

ES-242      1.7      T,C,R      1 EA-6B A

Goal. Introduce the EA-6B aircrew to front seat single-ship ES techniques in the EA-6B and mission planning capabilities of TERPES.

Requirements. May be conducted in conjunction with other sorties.

Performance Standards. Complete the following:

- (1) Coordinate with TERPES and S-2/EWO on given scenario.
- (2) Pre-flight briefing by S-2 and TERPES.
- (3) Ensure navigation track optimizes OBS detection capabilities.
- (4) Develop a TUT mission.
- (5) Conduct a surveillance mission against an EW range, local ATC

radars, or surface ship radars.

- (6) Utilize the HARM as a sensor.
- (7) Maintain appropriate logs for post mission reconciliation.
- (8) Complete TUT and TERPES post mission analysis.
- (9) Plan for and utilize the USQ-113 in the record mode.

Crew. Pilot and ECMO 1.

Ordinance. Captive AGM-88 Block III or IV.

ES-243      1.7      T,C,R      1 EA-6B A

Goal. Introduce the EA-6B aircrew to the single-ship backseat ES techniques in the EA-6B and mission planning capabilities of TERPES.

Requirements. Same as ES-242.

Performance Standards. Same as ES-242 with the addition of:

- (1) Properly initialize the OBS.
- (2) Identify, localize and record SOI.

Crew. ECMO 2/3.

Ordinance. Captive AGM-88 Block III or IV.

## 9. Deep Air Support.

a. Purpose. Introduce the aircrew to tactical employment of the EA-6B in the DAS environment.

b. General. Scenarios should attempt to integrate external assets to the maximum extent possible. Sorties should include an S-2 intel brief/debrief/scenario and a TERPES brief/debrief.

c. Ground/Academic Training. The following squadron level lectures should be accomplished prior to flight in this stage:

- (1) ASE.
- (2) Jamming Fundamentals.
- (3) USQ tactical considerations.
- (4) USQ basic operations.
- (5) EA General tactics.
- (6) JATO.

d. Pilot/ECMO Simulator Training (2 Periods, 3.0 Hours)

SDAS-250      1.5      T,C,R      1 2F143 S

Goal. Introduce/practice the aircrew requirements for jamming in support of a coordinated strike scenario.

Requirements. Shall be flown integrated with SDAS-251.

Performance Standards. Complete the following:

- (1) Determine EA-6B jammer and track timing in accordance with the S-2 scenario.
- (2) Determine optimum load-out.

- (3) Meet timing requirement +/- 10 seconds.
- (4) TERPES brief of scenario parametrics.
- (5) Develop HARM plan.
- (6) Brief HVU escort plan.
- (7) USQ-113 integration and targeting.
- (8) Expendable gameplan.
- (9) Practice degraded modes of operation.

Crew. Pilot and ECMO 1.

SDAS-251 1.5 T,C,R 1 15E22C S

Goal. Introduce/practice the aircrew requirements for jamming in support of a coordinated strike scenario.

Requirements. May be flown integrated with SDAS-250.

Performance Standards. Complete the following:

- (1) Develop TUT mission based on intel. scenario.
- (2) Determine optimum support profile and navigation track
- (3) Determine optimum load-out.
- (4) Meet timing requirement +10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM and jammer gameplan.
- (7) USQ-113 integration and targeting.
- (8) Initialize OBS and TJS.
- (9) Make/adjust jammer assignments in accordance with jammer gameplan.
- (10) Maintain EA logs.
- (11) Execute hardware and software checks.
- (12) Practice degraded modes of operation.

Crew. ECMO 2/3.

e. USQ-113 Trainer (1 Period, 2.0 Hours)

TDAS-252 2.0 T,C,R 1 USQ-113 S

Goal. Become familiar with the operating characteristics of the USQ-113.

Requirements. May be conducted in a USQ equipped aircraft or the USQ mobile trainer.

Performance Standards. Complete the following:

- (1) Coordinate with S-2 and National assets concerning signals of interest.
- (2) Develop target tables.
- (3) Initialize USQ-113.
- (4) Employ the USQ in all modes (normal, priority, selective, and blind).
- (5) Employ the USQ in the limited search mode.
- (6) Employ the USQ in the COMM-1 mode.
- (7) Employ the USQ record mode.
- (8) Review data loader procedures.
- (9) Perform BITs.
- (10) Maintain ES/EA logs.

f. Pilot/ECMO Flight Training (Pilot: 1 Flight, 1.7 Hour; ECMO: 2 Flights, 3.4 Hours)

DAS-253 1.7 T,C,R 1 or 2 EA-6B(s) A

Goal. Introduce/practice the aircrew requirements for jamming in support of a DAS strike scenario.

Requirements. This sortie shall be planned and briefed as a section. However, it may be executed as a single.

Performance Standards. Complete the following:

- (1) Develop TUT mission for a section of EA-6B.
- (2) Determine EA-6B jammer and track timing in accordance with the S-2 scenario.
- (3) Determine optimum load-out.
- (4) Meet timing requirement +10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM plan.
- (7) Brief HVU escort plan.
- (8) USQ-113 integration and targeting.
- (9) Expendables gameplan.

Crew. Pilot and ECMO 1.

DAS-254 1.7 T,C,R 1 or 2 EA-6B(s) A

Goal. Introduce/practice the aircrew requirements for jamming in support of a coordinated strike scenario.

Requirements. This sortie shall be planned and briefed as a section. However, it may be executed as a single.

Performance Standards. Complete the following:

- (1) Develop TUT mission based on intel scenario.
- (2) Determine optimum support profile and navigation track.
- (3) Determine optimum load-out.
- (4) Meet timing requirement +10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM and jammer gameplan.
- (7) USQ-113 integration and targeting.
- (8) Initialize OBS and TJS.
- (9) Make/adjust jammer assignments in accordance with jammer gameplan.
- (10) Maintain EA logs.
- (11) Execute hardware and software checks.
- (12) Coord. with S-2 and TERPES for post flight debrief.

Crew. ECMO 2/3.

#### 10. Reactive Suppression of Enemy Air Defenses (RSEAD).

a. Purpose. Introduce the aircrew to EA support in the CAS environment.

b. General. Scenarios should attempt to integrate external assets to the maximum extent possible. Sorties should include an S-2 intel brief/debrief/scenario and a TERPES brief/debrief. Missions in this phase will focus on scenarios where the target and threat are both co-located and not co-



located.

c. Ground/Academic Training. The following squadron level lectures should be accomplished prior to flight in this stage:

(1) EWCAS.

d. Pilot/ECMO Simulator Training (2 Periods, 3.0 Hours)

SRSEAD-260      1.5      T,C,R    2F143 S

Goal. Introduce single-ship EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. Shall be flown integrated with SRSEAD-261.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ONA and OFFA procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 4 threat is the target missions.
- (6) Conduct a minimum of 4 threat is not the target missions.
- (7) Prepare communications flow and reporting procedures.
- (8) Practice degraded modes of operation.
- (9) Gain alignment to within + 3 Deg.

Crew. Pilot and ECMO 1.

SRSEAD-261      1.5      T,C,R    15E22C S

Goal. Introduce single-ship EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. May be flown integrated with SRSEAD-260.

Performance Standards. Same as SRSEAD-260. Additionally, complete the following:

- (1) Prepare chart/Geo display with all control points.
- (2) Prepare jammer gameplan.

Crew. ECMO 2/3.

e. Pilot/ECMO Flight Training (Pilot: 1 Flight, 1.7 Hour; ECMO: 2 Flights, 3.4 Hours)

RSEAD-262      1.7      T,C,R    1 EA-6B A/S

Goal. Introduce single-ship EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. S-2 scenario providing friendly and enemy ground order of battle, SAMs/AAA, and Fire Support Coordination Measures is required.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ON AXIS and OFF AXIS procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 2 threat is the target missions.
- (6) Conduct a minimum of 2 threat is not the target missions.
- (7) Prepare communications flow and reporting procedures.

Prerequisites. SRSEAD-260.

Crew. Pilot and ECMO 1.

RSEAD-263 1.7 T,C,R EA-6B A/S

Goal. Introduce single-ship EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. Same as RSEAD-262.

Performance Standards. Same as RSEAD-262. Additionally, complete the following:

- (1) Prepare chart/Geo display with all control points.
- (2) Prepare jammer gameplan.

Prerequisite. SRSEAD-261

Crew. ECMO 2/3.

## 11. Force Protection.

a. Purpose. Introduce EA-6B tactics and techniques in the force protection role.

b. General. These missions are intended to familiarize the EA-6B aircrew with tactics and techniques for the defense of a vital area or supported unit. They may include, but are not limited to, Anti-Ship Missile Defense (ASMD), helicopter support, airfield defense, GCE support, counter-battery artillery raids, or vital area defense.

c. Ground Training.

- (1) EA-6B in support of Helicopter Operations.
- (2) EA-6B in support of GCE.
- (3) Bulk Chaff Operations.

d. Pilot/ECMO Simulator Training (2 Periods, 3.0 Hours)

SFP-270 1.5 T,C,R 2F143 S

Goal. Introduce/practice procedures for force protection.

Requirements. May be flown integrated with SFP-271.

Performance Standards. Complete the following:

- (1) Coordinate with supported unit.
- (2) Determine threat to supported unit.
- (3) Determine SOI for threat warning.
- (4) Determine criteria for flex to reactionary defense.
- (5) Determine and execute proper reporting procedures.
- (6) Prepare TUT mission.
- (7) Prepare expendables gameplan, to include chaff corridors (if available).
- (8) Prepare go/no go criteria.
- (9) Practice degraded modes of operation.

Crew. Pilot and ECMO 1.

SFP-271 1.5 T,C,R 15E22C S

Goal. Introduce/practice procedures for force protection.

Requirements. May be flown integrated with SFP-271

Performance Standards. Same as SFP-270, with the addition of the following:

- (1) Prepare jammer and HARM gameplan.

Crew. ECMO 2/3.

## 12. Fleet Electronic Protection.

- a. Purpose. Introduce the aircrew to employment of the EA-6B in the EP environment.

b. General. These missions are to train other units in a hostile electromagnetic environment. Requirements will depend on the training required by the supported unit. Examples include break-lock training for F/A-18 units and jamming missions against an operating MACCS.

FEP-272 1.7 T,C,R 1 EA-6B A/S

Goal. Introduce/practice the requirements for successful completion of EP training support for Fleet units.

Requirements. Can be conducted against any Fleet unit requesting EP support.

Performance Standards. Introduce/practice the following:

- (1) Coordinate with the supported unit.
- (2) Develop TUT mission.
- (3) Prepare communications plan and codewords as necessary.
- (4) Maintain EA logs.

Crew. Pilot and ECMO 1/2/3.

## 243. COMBAT QUALIFICATION TRAINING: PILOT AND ECMO

### 1. Night Aerial Refueling

- a. Purpose. Introduce the Pilot/ECMO to night aerial refueling procedures.
- b. General. The type of aircraft utilized for aerial refueling shall be

determined by mission requirements.

c. Ground Training. Aircrew shall receive all applicable aerial refueling lectures prior to flight in this stage.

AR-300      1.7      T,C,R   1 EA-6B A N

Goal. Introduce/practice the techniques specific to night high altitude aerial refueling. Practice tanker communications and engagement/disengagement procedures.

Requirements. Same as AR-206.

Performance Standards. IAW Aerial Refueling NATOPS.

Prerequisites. AR-206 for initial currency aircrew.

Crew. Pilot.

External Syllabus Support. 1 KC-130 or other suitable refueler.

## 2. Air-to-Air (Defensive Tactics (DEFTAC))

a. Purpose. This stage is designed to introduce the EA-6B aircrew to the capabilities and limitations of the EA-6B in the air-to-air environment. This includes BVR/WVR maneuvering and section defensive tactics.

### b. General.

(1) Current OPNAVINST 3710.7, T&R VOL.1, MAWTS-1 Course Catalog, and Fleet/Wing/Group orders define the limitations for the conduct of ACM. All air-to-air training is subject to the guidelines set forth in these orders.

(2) Only those aircrew certified by MAWTS-1 and designated by the Commanding Officer as DEFTAC Instructors (DEFTACI) will conduct the ground and in-flight instruction associated with DEFTAC. The T&R Vol. 1 ACM flight lead designation does not apply to the EA-6B. ACMI/TACTS pods shall be used if available.

(3) Initial Qualification. A DEFTACI shall occupy either the pilot or ECMO 1 position for all initial qualification sorties for the pilot and ECMO(s). The ECMO(s) may qualify/update DEFTAC-310 through 313 and DEFTAC-410 in either the ECMO 1, 2, or 3 position. A DEFTACI pilot shall fly as section lead for the initial qualification sortie DEFTAC-313. A DEFTACI pilot shall fly as wingman for a pilot's DEFTAC Section Leader qualification sortie DEFTAC-314. ECMO(s) record DEFTAC-314 sorties as DEFTAC-313. All aircrew shall be proficient in SFAM-210 (BAM simulator), FAM-211 (BAMflight), and FORM-220 (Section maneuvering) prior to flight in this stage. Multiple Xs are not permitted per flight.

(4) Reflys and Refresher. The pilot and ECMO remain DEFTAC qualified as long as they are DIFOP to the VMAQ/MAG/Wing/MAWTS-1 and meet their OPNAV flight hour minimums in the EA-6B. If proficiency lapses, the commanding officer will designate which portions of the DEFTAC stage will be flown to regain proficiency. When proficiency lapses, an EA-6B DEFTACI will be present in the initial qualification designated positions.

(5) Evaluations. DEFTAC-313 is the evaluation sortie for the DEFTAC stage. Upon successful completion of DEFTAC-313, aircrew may be designated DEFTAC qualified with a letter from the squadron commanding officer. DEFTAC-314

is the pilot evaluation sortie for DEFTAC Section Leader. Upon successful completion of DEFTAC-314, the pilot shall be designated a DEFTAC Section Leader with a letter from the squadron commanding officer.

(6) Utilizing Adversary Aircraft. One dissimilar aircraft is required. DEFTAC-310 does not require a radar-missile/BVR capable adversary. DEFTAC-312 through DEFTAC-314 require either radar-missile capable dissimilar adversaries (i.e., FA-18, F-16, F-15, F-14, etc.) or professional adversaries (i.e., VMFT-401, TOPGUN, VC squadrons, etc.). Aircrew qualifications for adversary aircraft are specified in T&R Volume 1.

c. Ground Training. All DEFTAC ground training specified in the MAWTS-1 Course Catalog must be completed prior to flight in this stage and within the 6 months prior to DEFTAC qualification. All aircrew must successfully complete a MAWTS-1 developed and squadron DEFTACI administered DEFTAC academic exam prior to qualification.

d. Pilot/ECMO Simulator Training (1 Event, 1.0 Hour)

e. Pilot/ECMO Flight Training (3 Flights, 4.5 Hours)

f. Pilot DEFTAC Section Leader Training (1 Flight, 1.5 Hours)

DEFTAC-310      1.5      T,C,R    1 EA-6B A vs 1 Dissimilar Adversary A

Goal. Within Visual Range (WVR) maneuvering. Practice basic 1V1 WVR maneuvering.

Requirements. Complete the following:

(1) Eyeball calibration and demos:

- Bogey demo 20/40/600 Angle-off-tail (AOT), IR-1 or IR-2 and gun Weapons Engagement Zones (WEZ), lead/pure /lag pursuit, aircraft top/bottom, blind zone.
- Bogey demo low-to-high Yo-Yo and Barrel Roll Attack to both sides of EA-6B.

(2) Guns Snapshot Drill.

- (3) Defensive counters against a bogey simulating a Category I or II aircraft using an IR-1 or IR-2 WEZ.
  - Low Angle Threat, bogey 200 AOT/1.5 nm/bogey with at least 100 KIAS airspeed advantage.
  - High Angle Threat, bogey 600 AOT/1.5 nm.
- (4) Head-on starts with bogey simulating a Category II or III aircraft using an IR-1 or IR-2 WEZ:
  - EA-6B drive engagement to one-circle flow.
  - EA-6B drive engagement to two-circle flow.
- 5) Butterfly set-ups:
  - Bogey uses vertical at merge simulating a Category II or III aircraft with an IR-1 or IR-2 WEZ.
  - Bogey uses vertical at "fights on" call simulating a Category II or III aircraft with an IR-1 or IR-2 WEZ.
  - Bogey uses highest category aircraft capable with an IR-1 or IR-2 WEZ (as fuel/time permit).
- (6) Proper expendables employment.

Performance Standards. IAW TAC Manual and MAWTS-1 Course Catalog.

Crew. Pilot and ECMO 1/2/3.

Prerequisites. DEFTAC lecture series, SFAM-210, FAM-211 and FORM-

220 current.

Ordinance. Appropriate mix of expendables and at least two jamming pods per aircraft. TACTS/ACMI pod shall be used if available.

SDEFTAC-311 1.0 T,C,R 1 EA-6B S

Goal. Introduce the communications and situational awareness required for Intercept Control and BVR engagements. Introduce determination of slide/scram criteria. Introduce forward-quarter missile defense.

Requirements. Utilize Broadcast and Tactical Control to build intercept timeline situational awareness.

Performance Standards. Complete the following:

- Determine timely Slide/Scram ranges and directions.
- Interpret AIC/GCI communications.
- Build intercept timeline situational awareness.
- DEFTACI makes appropriate shot calls for simulated bogey.

Conduct:

- (1) Simulate bogey at 30 nm (EA-6B non-maneuvering).
- (2) Simulate bogey at Scram.
- (3) Simulate bogey inside Scram and outside of E-Pole.
- (4) Simulate "Pop-up Threat" inside E-Pole.
  - Determine notch direction/timing.
  - Initiate Forward Quarter Missile Defense (FQMD) on "smoke in the air" call.
  - Post simulated merge, determine "Green" direction.
- (5) Execute 50% rule recoveries to no lower than 2,000 ft AGL using the dive recovery rules.
- (6) Proper expendables employment.

Crew. Pilot and ECMO 1 (ECMO 2&3 if integrated simulator) and DEFTACI (at console).

Ordinance. Simulate appropriate mix of expendables and at least two jammer pods.

Prerequisites. SFAM-210.

DEFTAC-312 1.5 T,C,R 1 EA-6B A vs 1 Dissimilar Adversary A

Goal. Practice the communications and situational awareness required for Intercept Control and BVR engagements, determination of slide/scram criteria, and forward-quarter missile defense.

Requirements. GCI/AEW required if available. If no radar control available, an air-intercept radar equipped bogey flown by an ACM Flight Lead may be substituted. Utilize Broadcast and Tactical Control to build intercept timeline situational awareness.

Performance Standards. Complete the following:

- Determine timely Slide/Scram ranges and directions.
- Interpret AIC/GCI communications.
- Build intercept timeline situational awareness.

- Bogey makes valid shot calls.
- (1) Eyeball calibration.
    - Bogey at 30 nm (EA-6B non-maneuvering).
    - When appropriate, EA-6B call notional slide; determine and call notional scram direction.
    - EA-6B note range of "Tally-Ho".
  - (2) Bogey at Scram.
    - When appropriate, EA-6B call notional slide; determine scram direction.
    - Bogey makes appropriate shot calls; all note ranges and times.
  - (3) Bogey inside Scram and outside of E-Pole.
    - Bogey makes appropriate shot calls; all note ranges and times.
  - (4) Bogey "Pop-up Threat" inside E-Pole.
    - Determine notch direction/timing.
    - Initiate Forward Quarter Missile Defense (FQMD) on "smoke in the air" call.
    - Post merge, EA-6B practice WVR tactics.
    - Bogey makes appropriate shot calls; all note ranges and times.
  - (5) Execute 50% rule recoveries to no lower than 2,000 ft AGL using the dive recovery rules.
  - (6) Proper expendables employment.

Crew. Pilot and ECMO 1/2/3.

Ordinance. Appropriate mix of expendables and at least two jammer pods.

Prerequisites. SDEFTAC-311.

External Support Requirements. A dissimilar adversary and GCI/AEW.

DEFTAC-313      1.5      T,C,R   E   2 EA-6B A vs 1 Dissimilar Adversary A

Goal. Introduce section DEFTAC. Practice Slide/Scram determination and WVR maneuvering. This is the pilot/ECMO qualification sortie.

Requirements. GCI/AEW required if available. If no radar control available, an air-intercept radar equipped bogey flown by an ACM Flight Lead may be substituted. Practice broadcast control and tactical control. A DEFTACI pilot shall be section lead whenever the wingman is not a qualified DEFTAC Section Leader (see DEFTAC-314).

Performance Standards. Complete the following:

- Determine proper Slide/Scram ranges.
- Interpret AIC/GCI communications.
- Execute proper Scram tactics.
- Establish deconfliction criteria.

Conduct:

- (1) Successfully maneuver section to counter a Zone 1 threat outside of E-Pole.
  - EA-6Bs in Defensive Combat Spread.
- (2) Successful section FQMD to counter a Zone 1 threat inside of E-Pole.

- EA-6Bs in Defensive Combat Spread.
  - AIC/GCI gives "Picture Clean" calls until bogey inside E-Pole.
  - EA-6Bs execute FQMD.
  - Bogey calls any valid shots.
  - Bogey call targeted EA-6B if no "Tally-Ho" call from EA-6Bs by 3 nm.
  - Targeted EA-6B (only one) executes merge and WVR tactics
  - Bogey calls any additional valid shots.
- (3) Successfully maneuver section to counter a Zone 2 threat outside of E-Pole.
- EA-6Bs in Defensive Combat Spread.
- (4) Successfully counter a threat outside of E-Pole from a non-visual set-up in an EW Track.
- Wingman is at least 1000K' above lead's track altitude.
  - Both EA-6Bs execute proper Scram tactics/deconfliction.
  - Bogey makes valid shot calls.
- (5) Successfully counter a threat inside of E-Pole from a non-visual set-up in an EW Track.
- Wingman is at least 1000K' above lead's track altitude.
  - EA-6Bs determine who has threat inside E-Pole (may or may not be both EA-6Bs).
  - EA-6B(s) with threat inside E-Pole executes FQMD; the other EA-6B Scrams.
  - Bogey calls any valid shots.
  - Bogey call targeted EA-6B if no "Tally-Ho" call from EA-6B by 3 nm.
  - Targeted EA-6B (only one) executes merge and WVR tactics.
  - Bogey calls any additional valid shots.

Crew. Pilot, ECMO 1/2/3.

Ordnance. Appropriate mix of expendables and at least two jammer pods. TACTS pods (EA-6Bs and adversary) are required, if available.

Prerequisites. DEFTAC-312.

External Support Requirements. A dissimilar adversary and GCI/AEW.

DEFTAC-314 1.5 T,C,R E 2 EA-6B A vs 1 Dissimilar Adversary A

Goal. Evaluate the pilot's ability to successfully lead a section DEFTAC mission. This is the Pilot's DEFTAC Section Leader qualification sortie.

Requirements. Same as DEFTAC-313 with the following modification: The pilot under training shall lead the entire flight, and a DEFTACI pilot shall be wingman for the entire flight. Only the pilot under training receives the DEFTAC-314 code, all others record DEFTAC-313.

Performance Standards. Same as DEFTAC-313.

Crew. Pilot, ECMO 1/2/3.

Ordnance. Same as DEFTAC-313.

Prerequisites. DEFTAC-313. Pilot under training must be a designated Section Leader.



External Support Requirements. Same as DEFTAC-313.

### 3. Low Altitude Tactics (LAT)

a. Purpose. To expose aircrews to the tactical low altitude environment. Introduce defensive maneuvering, formation flight at Comfort Level, defensive maneuvering in section, and techniques to utilize terrain for defensive purposes.

#### b. General.

(1) LAT applies to tactical operations where the briefed intent is to fly below 1000 ft AGL. T&R Volume 1, the MAWTS-1 Course Catalog, and the MAWTS-1 LAT Syllabus provide definitions and currency requirements for the conduct of LAT training. This stage will be flown in strict compliance with the above mentioned sources. In addition, it is recognized that commanders may impose altitude limits that impinge on CL. Altitude limits will always be observed and treated as applicable Rules of Conduct (ROC), as per T&R Volume 1. Only front-seat aircrew are subject to the altitude constraints imposed by the Rules of Conduct. LAT qualification will always be accomplished in restricted airspace, MOA's, suitable MTR's, or other areas designated by the appropriate Wing/MAGTF commander.

(2) LAT qualification is not a function of reflight interval. Aircrew can still be LAT qualified and not proficient in a certain LAT sortie. When a qualified aircrew loses proficiency in a particular syllabus flight, they may regain proficiency by satisfactorily completing that sortie in which they are delinquent. Multiple LAT Xs are not permitted per flight.

c. Ground/Academic Training. MAWTS-1 LAT lecture series will be completed before flight in this stage.

#### d. Simulator Training (1 Period, 1.5 Hours)

SLAT-320      1.5      T,C,R    2F143 S

Goal. Introduce and practice low altitude crew coordination and flight skills.

Requirements. This is the warm-up simulator for LAT. Part of the sortie will be completed at no lower than 500 ft AGL; as per LAT requirements, and part at 2,000 ft AGL; as per LAT-420 requirements. The LAT instructor will brief the event and be in the simulator device or at the simulator console. The aircrew under instruction will demonstrate a knowledge of all maneuvers.

Performance Standards. Complete the following:

- (1) Hard and break turns (500 ft and 2,000 ft AGL).
- (2) Defensive turns at CL and 2K.
- (3) Transitions from 25,000, 20,000, and 18,000 ft MSL to no lower than 500 and 2,000 ft AGL utilizing the 50% rule.
- (4) Medium and high altitude less than corner airspeed SAM evasive maneuvering.
- (5) Multiple vertical jinks (VJ), straight ahead oblique jinks (SOJ), turning oblique jinks (TOJ), and reverse oblique jinks (ROJ) using the 10 degree rule from 2000 ft AGL.
- (6) Level "S", 3D Maneuver, SAM Break, and Gun Jink in

response to a simulated ground threat from NLT 2000 ft AGL.

(7) Brief and set-up expendables panel as required for the briefed threat.

(8) Employ chaff and flares in conjunction with the maneuvers.

Crew. Pilot and ECMO 1.

e. Flight Training (3 Flights, 4.5 Hours)

LAT-321 1.5 T,C,R 1 EA-6B A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Attain initial LAT ROC currency. Introduce flight at CL, ridgeline crossings, and defensive turns.

Requirements. LATI pilot or ECMO; instructor will brief. Brief LAT ROC.

Performance Standards. Completion of the following:

- (1) 'G' Awareness and FOD check maneuvers.
- (2) Attain initial LAT ROC currency; no lower than 1000 ft AGL.
- (3) Minimum of two Defensive Turns in each direction at no lower than 1000 ft AGL.
- (4) Descent below 1000 ft AGL at LATI discretion.
- (5) Ridgeline crossings - 90 degree, 45 degree, natural breaks, with unloaded and 90 AOB comedowns. Utilize dive recovery rules on the descent.
- (6) Currency established, cleared to no lower than 500 ft AGL.
- (7) Minimum of four Defensive Turns at no lower than 500 ft AGL.
- (8) One circuit at NLT 500 ft AGL.
- (9) Flight at CL on remaining legs of route or course, NLT T&R Vol. I mins.
- (10) Speed rush baseline demo. at 500 and 1000 ft AGL.
- (11) Proper KIO procedures.

Prerequisites. SLAT-320, current in NAV-204.

Crew. Pilot and ECMO 1.

LAT-322 1.5 T,C,R 2 EA-6Bs A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Introduce section maneuvering in the LAT environment.

Requirements. LATI pilot or ECMO; instructor briefs conduct and LAT ROC. Turns in accordance with MAWTS-1 course catalog. Pilot under instruction will fly as wingman only.

Performance Standards. Complete the following:

- (1) 'G' Awareness and FOD check maneuvers.
- (2) Defensive turns prior to section maneuvering for Pilot initial qualification sorties.
- (3) Section maneuvering at CL, no lower than T&R Vol I mins.
- (4) Complete the following turns:
  - NAV into/away
  - TAC into/away
  - Shackle
  - Cross-turn
  - In-place into/away
- (5) Section ridgeline crossings.

Prerequisites. Current in NAV-204, FORM-220, FORM-222, LAT-321.

Crew. Pilot and ECMO 1.

LAT-323      1.5      T,C,R    2 EA-6Bs A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. LAT qualify the pilot or ECMO under instruction.

Requirements. LATI pilot or ECMO; instructor briefs conduct and LAT ROC. Pilot or ECMO under instruction briefs turns in accordance with MAWTS-1 syllabus.

Performance Standards. Completion of the following:

- (1) 'G' Awareness and FOD check maneuvers.
- (2) Section maneuvering at CL.
- (3) Lead will be switched halfway through route or on second lap on LAT course.

Prerequisites. LAT-322.

Crew. Pilot and ECMO 1.

#### 4. Section/Division Leadership Training

a. Purpose. To provide formal training to qualify the EA-6B pilot as a Section/Division Leader.

##### b. General

(1) These sorties are intended to expose the EA-6B pilot to the section/division situations they will most likely experience. Squadrons will be responsible for outlining the build-up for this stage. The Section/Division Leader in the flight will evaluate the Section/Division Leader under training. The listed sorties are the minimums required of a pilot to be designated a section/division lead in the EA-6B.

(2) The pilot under training should complete a daytime and nighttime

tanker rendezvous as the lead pilot of two aircraft during section lead training and at least three aircraft during division lead training. Preferably, these events will incorporate both KC-130 and Strategic tanker assets prior to designation.

(3) Completion of Section/Division Leader Test. Squadrons will designate the prerequisites prior to flight in this stage.

(4) It is recommended that the section/division lead under training be LAT and DEFTAC qualified prior to the flight leadership work-up.

c. Ground/Academic Training. Squadrons will designate the specific ground and academic training.

d. Simulator Training. None.

e. Pilot Flight Training (7 Flights, 11.9 Hours)

FORM-324      1.7      E   2 EA-6Bs A

Goal. Evaluate the pilot's ability to successfully lead a section high altitude sortie, break-up and rendezvous practice and section approaches during daylight conditions.

Requirements. Evaluated pilot briefs the flight. Flight requirements IAW FORM-220. Section lead in the other airplane.

Performance Standards. IAW NATOPS, Instrument Flight Manual and Local SOP.

Crew. Pilot.

Prerequisites. FORM-220.

FORM-325      1.7      E   2 EA-6Bs A

Goal. Evaluate the pilot's ability to successfully lead a section low altitude sortie.

Requirements. Evaluated pilot briefs the flight. Flight requirements IAW FORM-222. Section lead in the other airplane.

Performance Standards. IAW NATOPS, TAC Manual and Local SOP.

Crew. Pilot.

Prerequisites. FORM-222.

FORM-326      1.7      E   2 EA-6B A N

Goal. Evaluate the pilot's ability to successfully lead a section night high altitude sortie, break-up and rendezvous practice and night section approaches.

Requirements. Evaluated pilot briefs the flight. Flight requirements IAW FORM-221. Section lead in the other airplane.

Performance Standards. IAW NATOPS and Instrument Flight Manual.

Crew. Pilot.

Prerequisites. FORM-221.

FORM-327 1.7 E 2 EA-6B A (N)

Goal. Evaluate the pilot's ability to successfully lead a section DAS or RSEAD mission.

Requirements. Evaluated pilot briefs the flight. Evaluated pilot functions as the section lead during a DAS or RSEAD mission (day or night). Section lead in the other airplane.

Performance Standards. IAW NATOPS and TAC Manual.

Crew. Pilot.

Ordinance and External Syllabus Support. Same as required for DAS or RSEAD mission.

FORM-328 1.7 E 3 EA-6Bs or 2EA-6Bs and 1 Dissimilar Aircraft A

Goal. Evaluate the pilot's ability to successfully lead a day division flight.

Requirements. Evaluated pilot briefs the flight. Division leader in at least 1 other airplane.

Performance Standards. IAW NATOPS and Local SOP. Including:

- (1) Division departure/join-up.
- (2) Minimum two break-up and rendezvous as the division lead.
- (3) Division Recovery

Crew. Pilot.

Prerequisites. Section leader designation.

FORM-329 1.7 E 3 EA-6Bs A N

Goal. Evaluate the pilot's ability to successfully lead a night division flight.

Requirements. Evaluated pilot briefs the flight. Division leader in at least 1 other airplane.

Performance Standards. Same as FORM-328.

Crew. Pilot.

Prerequisites. FORM-328.

FORM-330 1.7 E 3 EA-6Bs (N) or 2 EA-6Bs and 1 Dissimilar Aircraft A

Goal. Evaluate the pilot's ability to successfully lead a day or night division DAS/RSEAD flight.

Requirements. Evaluated pilot briefs the flight. Evaluated pilot

functions as the division lead during DAS or RSEAD mission. Division leader in at least one other airplane.

Performance Standards. IAW NATOPS and TAC Manual.

Crew. Pilot.

Prerequisites. FORM-329.

Ordnance. Same as ordnance requirements for DAS /RSEAD mission.

External Syllabus Support. Dissimilar aircraft (if needed).

## 5. Section Electronic Warfare Support.

a. Purpose. Introduce and practice section ES procedures and TERPES integration.

b. General. ES-340, 341 are designed to increase the signal recognition and identification proficiency in a dense electromagnetic environment. ES-340, 341 shall be flown against an EW range with real world signals. To the greatest extent possible, they shall include an S-2 intel scenario brief/debrief and TERPES brief/debrief.

c. Ground/Academic Training. The following squadron level lectures should be accomplished prior to flight in this stage:

- (1) ES General Tactics.
- (2) HARM as a sensor.

d. Flight Training (Pilot: 1 Flight, 1.7 Hours; ECMO: 2 Flights, 3.4 Hours)

ES-340 1.7 T,C,R 2 EA-6Bs A

Goal. Front seat section ES responsibilities.

Requirements. May be conducted in conjunction with other sorties.

Performance Standards. Complete the following:

- (1) Coordinate with TERPES and S-2/EWO on given scenario.
- (2) Pre-flight briefing by S-2 and TERPES.
- (3) Ensure navigation track optimizes OBS detection capabilities.
- (4) Develop a TUT mission.
- (5) Conduct a surveillance mission against an EW range, local ATC radars, or surface ship radars.
- (6) Utilize the HARM as a sensor.
- (7) Maintain appropriate logs for post mission reconciliation.
- (8) Complete TUT and TERPES post mission analysis.
- (9) Plan for and utilize the USQ-113 in the record mode.
- (10) Coordinate ES inter-plane communications.
- (11) Optimize section ES tracks.

Prerequisites. ES-242.

Crew. Pilot and ECMO 1.

ES-341 1.7 T,C,R 2 EA-6Bs A

Goal. Back seat section ES responsibilities.

Requirements. May be conducted in conjunction with other sorties.

Performance Standards. Complete the following:

- (1) Coordinate with TERPES and S-2/EWO on given scenario.
- (2) Pre-flight briefing by S-2 and TERPES.
- (3) Ensure navigation track optimizes OBS detection capabilities.
- (4) Develop a TUT mission.
- (5) Conduct a surveillance mission against an EW range, local ATC radars, or surface ship radars.
- (6) Utilize the HARM as a sensor.
- (7) Maintain appropriate logs for post mission reconciliation.
- (8) Complete TUT and TERPES post mission analysis.
- (9) Plan for and utilize the USQ-113 in the record mode.
- (10) Properly initialize the OBS.
- (11) Identify, localize and record SOI.
- (12) Coordinate ES inter-plane communications.
- (13) Optimize section ES tracks.

Crew. ECMO 2/3.

Ordinance. Captive AGM-88 Block III or IV.

## 6. Deep Air Support.

a. Pilot/ECMO Flight Training (Pilot: 1 Flight, 1.7 Hour; ECMO: 2 Flights, 3.4 Hours)

DAS-350 1.7 T,C,R 1 or 2 EA-6Bs A (N)

Goal. Plan and execute a night DAS strike. Introduce /practice coordination with strike communities, time-line adherence, HARM support, navigation, and crew responsibilities.

Requirements. This sortie shall be planned and briefed as a section. However, it may be executed as a single.

Performance Standards. Complete the following:

- (1) Develop TUT mission for a section of EA-6B.
- (2) Determine EA-6B jammer and track timing in accordance with the S-2 scenario.
- (3) Determine optimum load-out.
- (4) Meet timing requirement + 10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM plan.
- (7) Brief HVU escort plan.
- (8) USQ-113 integration and targeting.
- (9) Expendables gameplan.

Crew. Pilot/ECMO 1.

Ordinance. 30 Chaff and 30 Flares.

External Syllabus Support. A min. of 2 strike aircraft recommended.

DAS-351 1.7 T,C,R 1 or 2 EA-6Bs A (N)

Goal. Same as DAS-350.

Requirements. Done in conjunction with DAS-350. This sortie shall be planned and briefed as a section. However, it may be executed as a single.

Performance Standards. Complete the following:

- (1) Develop TUT mission based on intel. scenario.
- (2) Determine optimum support profile and navigation track.
- (3) Determine optimum load-out.
- (4) Meet timing requirement + 10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM and jammer gameplan.
- (7) USQ-113 integration and targeting.
- (8) Initialize OBS and TJS.
- (9) Make/adjust jammer assignments in accordance with jammer gameplan.
- (10) Maintain EA logs.
- (11) Execute hardware and software checks.
- (12) Coord. with S-2 and TERPES for post flight debrief.

Crew. ECMO 2/3.



Ordinance. Same as for DAS-350.

External Syllabus Support. Same as for DAS-350.

# 7. Reactive Suppression of Enemy Air Defenses (RSEAD).

## a. Pilot/ECMO Simulator Training (2 Periods, 3.0 Hours)

SRSEAD-360 1.5 T,C,R 2F143 S

Goal. Practice single-ship EWCAS techniques. Introduce HARM in support of OAS. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. Shall be flown integrated with SRSEAD-361.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ON AXIS and OFF AXIS procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 2 attacks against the threat SAM.
- (6) Conduct a minimum of 2 attacks against a target not co-located with threat SAM.
- (7) Practice MAWTS-1 FW/RW RSEAD cards for briefed threats.
- (8) Prepare communications flow and reporting procedures.
- (9) Practice degraded modes of operation.

Crew. Pilot and ECMO 1.

SRSEAD-361 1.5 T,C,R 15E22C S

Goal. Practice single-ship EWCAS techniques. Introduce HARM in support of OAS. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. May be flown integrated with SRSEAD-360.

Performance Standards. Same as SRSEAD-360. Additionally, complete the following:

- (1) Prepare chart/Geo display with all control points.
- (2) Prepare jammer gameplan.

Crew. ECMO 2/3.

## b. Pilot/ECMO Flight Training (Pilot: 2 Flights, 3.4 Hours; ECMO: 4 Flights, 6.8 Hours)

RSEAD-362 1.7 T,C,R EA-6B A/S (N)

Goal. Practice single-ship EWCAS techniques. Introduce HARM in support of OAS. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. S-2 scenario providing friendly and enemy ground order of battle, SAMs/AAA, and Fire Support Coordination Measures is required.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ON AXIS and OFF AXIS procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 2 attacks against the threat SAM.
- (6) Conduct a minimum of 2 attacks against a target not co-located with threat SAM.
- (7) Practice MAWTS-1 FW/RW RSEAD cards for briefed threats.
- (8) Prepare communications flow and reporting procedures.

Prerequisite. SRSEAD-360.

Crew. Pilot and ECMO 1.

RSEAD-363 1.7 T,C,R EA-6B A/S (N)

Goal. Practice single-ship EWCAS techniques. Introduce HARM in support of OAS. These missions will utilize both threat is the target and threat is not the target profiles.

Requirements. Same as SRSEAD-361.

Performance Standards. Same as SRSEAD-361. Additionally, complete the following:

- (1) Prepare chart/Geo display with all control points.
- (2) Prepare jammer gameplan.

Prerequisite. SRSEAD-361

Crew. ECMO 2/3.

RSEAD-364 1.7 T,C,R 1 EA-6B A/S N

Goal. Introduce single-ship night EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles. HARM shall be integrated at the discretion of the mission commander.

Requirements. S-2 scenario providing friendly and enemy ground order of battle, SAMs/AAA, and Fire Support Coordination Measures as required.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ON AXIS and OFF AXIS procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 2 attacks against the threat SAM.
- (6) Conduct a minimum of 2 attacks against a target not co-located with threat SAM.
- (7) Prepare communications flow and reporting procedures.

Prerequisites.

Crew. Pilot and ECMO 1.

RSEAD-365      1.7      T,C,R   1 EA-6B A/S N

Goal. Introduce single-ship EWCAS techniques. These missions will utilize both threat is the target and threat is not the target profiles. HARM shall be integrated at the discretion of the mission commander.

Requirements. Same as RSEAD-364.

Performance Standards. Same as RSEAD-364. Additionally, complete the following:

- (1) Prepare chart/Geo display with all control points.
- (2) Prepare jammer gameplan.

Prerequisite.

Crew. ECMO 2/3.

#### 8. Force Protection.

a. Purpose. Introduce EA-6B tactics and techniques in the force protection role.

b. General. These missions are intended to utilize the concepts of the FP-270/271 events in the flight environment.

c. Ground Training. None.

d. Pilot/ECMO Simulator Training. None.

e. Pilot/ECMO Flight Training (1 Flights, 1.7 Hours)

FP-370      1.7      T,C,R   2F143 S

Goal. Introduce/practice procedures for force protection.

Requirements. None.

Performance Standards. Complete the following:

- (1) Coordinate with supported unit.
- (2) Determine threat to supported unit.
- (3) Determine SOI for threat warning.
- (4) Determine criteria for flex to reactionary defense.
- (5) Determine and execute proper reporting procedures.
- (6) Prepare TUT mission.
- (7) Prepare expendables gameplan, to include chaff corridors (if available).
- (8) Prepare go/no go criteria.
- (9) Practice degraded modes of operation.
- (10) Prepare jammer and HARM gameplan.

Crew. Pilot ECMO 1/2/3.

External Support. External units as applicable for selected FP mission.

## 9. Flight Leadership Training - Mission Commander Program

a. Purpose. To provide formal training to qualify the EA-6B pilot/ECMO as a Mission Commander.

### b. General

(1) Individual Marine Air Groups/Squadrons will be responsible for outlining the build-up for this stage. Typically, a mission commander will meet minimum total sortie requirements, have made at least one overseas deployment and been exposed to the DEFTAC and LAT programs.

(2) These sorties are intended to expose the EA-6B pilot/ECMO Mission Commander Under Training (MCUT) to the coordinated mission sorties they will most likely experience. The mission commander sorties are broken down into three types:

(a) Exposure. The intent is to expose the MCUT to the proper employment of the EA-6B in various mission areas. Exposure for the bulk of the required missions will occur in the Combat Ready syllabus.

(b) Plan and Brief Flights. The MCUT, under the supervision of a designated mission commander, will participate in the detailed mission planning and execution of the specified missions. It is imperative that the actual mission commander stay actively involved and assist the MCUT in the mission planning process during Plan and Brief missions. If actual sorties are not available due to operational commitments, Plan and Brief sortie requirements can be met utilizing a Marine Aviation Planning Exercise (MAPEX). If a MAPEX is utilized, it must be logged as such on the applicable write-up.

(c) Performance. The MCUT will take complete responsibility as mission commander for the specific mission. The MCUT will be responsible for ensuring optimum integration and tactical employment of the EA-6B. As such, it is imperative that Performance flight evaluations include external support sorties to insure that the prospective mission commander is capable of coordinating with other communities/services/countries.

(3) This syllabus constitutes the minimum required sorties prior to mission commander designation. Squadron commanders can increase the syllabus requirements as they see fit. The relevant question which must be answered of an EA-6B mission commander is: Can the individual plan, brief, execute and debrief an effective electronic warfare mission and represent the community to external agencies?

(4) Sortie lengths are not designated because MCUT flights will be flown in conjunction with Squadron core training sorties. The ATRIMS codes will serve as tracking tools for an MCUT's performance to date. CRP values assigned will numerically raise the readiness of the individual and the Squadron as a whole. In essence, a mission commander will add more combat readiness value to a deploying unit than a Cat I aircrew who has only been exposed to missions.

### c. Ground/Academic Training.

(1) MCUTs will be required to Demonstrate Knowledge of applicable EW topics to Squadron mission commanders. Optimally, these topics will be presented on a regular basis to the entire Squadron to educate all aircrew and to evaluate the MCUT's ability to speak in an open forum. These should include, but are not limited to:

(a) The six functions of Marine Aviation

- (b) Relevant technical publications (MCM 3-1, Tac Manual, OTG)
- (c) Adversary IADS, Weapon Systems, Tactics
- (d) MACCS system
- (e) TUT, TERPES
- (f) Applicable aircraft systems (USQ-113, ALE-43, ALE-39, CTT/MATT)

(2) Completion of the Mission Commander Test and evaluation by the Squadron mission commander board if directed by Squadron order.

d. Simulator Training. None.

e. Pilot/ECMO Flight Training (13 Flights, 0.0 Hours)

MCUT-331      0.0      E   1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a HARM mission.

Requirements. Evaluated aircrew plans and briefs the mission specifics of a HARM sortie. Mission commander in the aircraft.

Performance Standards. Plan and Brief complete flight requirements IAW HARM-233/234.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. HARM-233/234.

External Support. Same as required for HARM-233/234.

MCUT-332      0.0      E   1 EA-6B A (N)

Goal. Evaluate aircrew's ability to effectively perform as a mission commander for a HARM mission.

Requirements. Flight requirements IAW HARM-233/234. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew effectively performs as a mission commander for a HARM sortie.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. MCUT-331.

External Support. Same as required for HARM-233/234.

MCUT-342      0.0      E   1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief an Electronic Warfare Support mission.

Requirements. Flight requirements IAW ES-242/243. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs the mission specifics of an Electronic Warfare Support mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. ES-242/243.

External Support. Same as required for ES-242/243.

MCUT-343 0.0 E 1 EA-6B A (N)

Goal. Evaluate aircrew's ability to effectively perform as a mission commander for an Electronic Warfare Support mission.

Requirements. Flight requirements IAW ES-242/243. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew effectively performs as a mission commander for an Electronic Warfare Support mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. MCUT-342.

External Support. Same as required for ES-242/243.

MCUT-352 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a Deep Air Support mission.

Requirements. Flight requirements IAW DAS-253/254. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs the mission specifics of a Deep Air Support mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. DAS-253/254.

External Support. Same as required for DAS-253/254.

MCUT-353 0.0 E 1 EA-6B A (N)

Goal. Evaluate aircrew's ability to effectively perform as a mission commander for a Deep Air Support mission.

Requirements. Flight requirements IAW DAS-253/254. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew effectively performs as a mission commander for a Deep Air Support mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. MCUT-352.

External Support. Same as required for DAS-253/254.

MCUT-366 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a Reactive SEAD mission.

Requirements. Flight requirements IAW RSEAD-262/263.  
Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs the mission specifics of a Reactive SEAD mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. RSEAD-262/263.

External Support. Same as required for RSEAD-262/263.

MCUT-367 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a Reactive SEAD with HARM mission.

Requirements. Flight requirements IAW RSEAD-364/365.  
Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs the mission specifics of a Reactive SEAD with HARM mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. RSEAD-364/365.

External Support. Same as required for RSEAD-364/365.

MCUT-368 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to act as a mission commander for a Reactive SEAD mission.

Requirements. Flight requirements IAW RSEAD-262/263.  
Mission commander in the aircraft.

Performance Standards. Evaluated aircrew effectively performs as a mission commander for a Reactive SEAD mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. MCUT-366.

External Support. Same as required for RSEAD-262/263.

MCUT-369 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to act as a mission commander for a Reactive SEAD with HARM mission.

Requirements. Flight requirements IAW RSEAD-364/365.  
Mission commander in the aircraft.

Performance Standards. Evaluated aircrew effectively performs as a mission commander for a Reactive SEAD with HARM mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. MCUT-367.

External Support. Same as required for RSEAD-364/365.

MCUT-372 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a Fleet EP mission.

Requirements. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs a Fleet EP sortie. Flight requirements IAW FEP-272.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. FEP-272.

External Support. Same as required for FEP-272.

MCUT-373 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively perform as the mission commander on a Force Protection mission.

Requirements. Flight requirements IAW FEP-272. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew plans and briefs a Force Protection sortie.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. FP-370.

External Support. Same as required for FEP-272.

MCUT-380 0.0 E 1 EA-6B A (N)

Goal. Evaluate the aircrew's ability to effectively Plan and Brief a War-at-Sea mission.

Requirements. Mission commander in the aircraft.

Performance Standards. Evaluated aircrew takes plans and briefs a War-at-Sea mission.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. None.

External Support. Naval Surface Unit.



## 244. FULL-COMBAT QUALIFICATION TRAINING: PILOT AND ECMO

## 1. Low Altitude Aerial Refueling.

a. Purpose. Introduce/practice the techniques/procedures required for low altitude aerial refueling.

b. General. The primary type of aircraft utilized for aerial refueling is the KC-130.

c. Ground Training. Aircrew shall receive all applicable aerial refueling lectures prior to flight in this stage.

d. Pilot/ECMO Flight Training (1 Periods, 1.0 Hour)

AR-400      1.0      T,C,R      1 EA-6B A

Goal. Introduce/practice the techniques/procedures required for low altitude aerial refueling.

Requirements. Same as for AR-206, with the addition:

- (1) T&R Vol. I altitude restrictions.
- (2) Below 5000 ft AGL.

Performance Standards. Same as AR-206.

Crew. Pilot.

Prerequisites. AR-206 for initial currency.

External Syllabus Support. 1 KC-130 or other suitable refueler.

## 2. Advanced Defensive Tactics.

a. Purpose. Introduce advanced DEFTAC, escort tactics, and escort coordination.

b. General. The intent of this sortie is to reinforce aircrew situational awareness in BVR/WVR DEFTAC, particularly during large force exercises.

c. Pilot/ECMO Flight Training (1 Periods, 1.5 Hours)

DEFTAC-410      1.5      T,C,R      E      1 or 2 EA-6Bs with Escort(s) vs at least 1 Adversary A

Goal. Introduce escort coordination. Practice Slide/Scram determination, defensive tactics, and BVR/WVR maneuvering.

Requirements. GCI/AEW required if available. If no radar control available, an air-intercept radar equipped bogey flown by an ACM Flight lead may be substituted. Utilize Broadcast and Tactical Control to build intercept timeline situational awareness.

Performance Standards.

- (1) Coordinate with GCI/AEW assets.
- (2) Coordinate with HVAA CAP.
- (3) Coordinate escort and, if applicable, wingman communications and signals.

- (4) Determine Slide/Scram criteria.
- (5) Determine reset criteria.

Crew. Pilot and ECMO 1/2/3 of each aircraft.

Ordnance. Appropriate mix of expendables and at least two pods. TACTS pods are required, if available.

Prerequisites. DEFTAC-313; For EA-6B section DEFTAC, a designated DEFTAC Section Leader or a DEFTACI pilot.

External Support Requirements. GCI/AEW, at least 1 escort, and at least 1 adversary.

### 3. Advanced Low Altitude Tactics.

a. Purpose. Introduce advanced maneuvering and dive recovery transitions.

#### b. General

(1) The intent of these sorties is to develop aircrew skills and confidence in evasive maneuvering. Maneuvering will not take place below 2,000 ft AGL. Only LATIs will act as instructors on these sorties. All flights will be conducted in an appropriate training area. For training enhancement, it is recommended that LAT-420 be conducted on a suitable EW range with feedback capabilities. The use of "smokey SAMs," and TACTS pods are desired.

(2) Front-seat aircrew for these flights will be qualified and current LAT prior to flight in this stage.

c. Ground Training. The MAWTS-1 Advanced Maneuvering lecture will be accomplished prior to commencing the flight stage.

#### d. Pilot/ECMO Flight Training (1 Periods, 1.5 Hour)

LAT-420	1.5	T,C,R	1 EA-6B A
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"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Introduce/practice advanced defensive maneuvering and dive recovery rules.

Requirements. No lower than 2,000 ft AGL. The instructor will brief the event. The aircrew under instruction will demonstrate a knowledge of all maneuvers.

Performance Standards. Complete the following:

- (1) Hard turns.
- (2) Transitions from 20,000 and 18,000 ft MSL to no lower than 2,000 ft AGL utilizing the 50% rule.
- (3) At 20,000 ft MSL and less than corner airspeed (300 KIAS) SAM evasive maneuvering.
- (4) Multiple vertical jinks (VJ), straight ahead oblique jinks (SOJ), turning oblique jinks (TOJ), and reverse oblique jinks

- (ROJ) using the 10 degree rule.
- (5) Level "S", 3D Maneuver, SAM Break, and Gun Jink in response to a simulated ground threat.
- (6) Employ chaff and flares in conjunction with the maneuvers.

Crew. Pilot and ECMO 1.

Prerequisites. SLAT-320.

Ordinance. Chaff/flare mix.

#### 4. Live HARM Shoot.

a. Purpose. To expose aircrews to the requirements and planning for successful firing of a live HARM.

b. General. The EA-6B is the recommended HARM shooter in a dense electromagnetic environment. The detailed TUT mission planning required and HARM shot tailoring is essential to ensure proper deconfliction and coordination in the OAS environment.

SWD-430      1.7      T,C,R   1 EA-6B A

Goal. Successful firing of live HARM.

Requirements. Appropriately cleared range space and threat emitter is required.

Performance Standards. Complete the following:

- (1) Plan/employ HARM in the RK mode if possible.
- (2) Construct "tailored" DAs (do not employ HARM utilizing standard HARM DAs).
- (3) Compare/contrast the use of different Blocks of missiles.
- (4) Utilize ABL.
- (5) Utilize H-Code and OpCreate as appropriate.
- (6) Conduct electronic BDA.

Prerequisites. Current in all SWD sorties.

Crew. Pilot and ECMO 1/2/3.

Ordinance. AGM-88 B/C1.

External Syllabus Support. Range clearing asset (P-3, AWACS, etc.), target emitter, and target placement equipment.

#### 5. Electronic Warfare Support - National Assets Integration.

a. Purpose. To review the capabilities that National Assets can provide to the EA-6B during pre-mission planning and execution.

b. General. These missions will attempt to integrate the EA-6B with National Assets such as; Rivet Joint, Compass Call, Reef Point, and various ELINT broadcasts, in order to increase the effectiveness of the EA-6B's ES and EA efforts. MATT/CTT will be used to the maximum extent possible.

c. Ground Training. None

d. Pilot/ECMO Flight Training (Pilot/ECMO: 1 Flights 1.7 Hours)

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Ch-1

ES-440 1.7 T,C,R 1 EA-6B A

Goal. To introduce/practice the requirements necessary to integrate with National Assets during pre-mission planning and execution.

Requirements. Every attempt shall be made to receive capabilities briefs of the assets involved in the mission.

Performance Standards. Complete the following:

- (1) Develop TUT mission.
- (2) Develop communications plan and reporting procedures.
- (3) Correlate OBS signals with National sources in order to provide more accurate indications and warning to other tactical assets.
- (4) Correlate OBS signals to increase EA.
- (5) Utilize TERPES data-link if available.
- (6) Verify ELINT broadcast airborne if capable.
- (7) Properly initialize MATT/CTT.

Prerequisites. ES-242, 243.

Crew. Pilot and ECMO 1/2/3.

External Syllabus Support. National Asset.

#### 6. Deep Air Support.

a. Purpose. Introduce the aircrew to tactical employment of an EA-6B division (3 aircraft minimum) in the DAS environment.

b. General. Scenarios should attempt to integrate external assets to the maximum extent possible. Sorties should include an S-2 intel brief/debrief/scenario and a TERPES brief/debrief.

c. Ground Training. None

d. Pilot/ECMO Flight Training (Pilot/ECMO: 2 Flights 3.4 Hours)

DAS-450 1.7 T,C,R 1 or 2 EA-6B(s) A

Goal. Introduce/practice the aircrew requirements for jamming in support of a DAS strike scenario.

Requirements. Same as DAS-253,254. Division considerations.

Performance Standards. Complete the following:

- (1) Develop TUT mission for a section of EA-6B.
- (2) Determine EA-6B jammer and track timing in accordance with the S-2 scenario.
- (3) Determine optimum load-out.
- (4) Meet timing requirement + 10 seconds.
- (5) TERPES brief of scenario parametrics.
- (6) Develop HARM plan.
- (7) Brief HVU escort plan.
- (8) USQ-113 integration and targeting.
- (9) Expendables gameplan.

Prerequisites. DAS-253, 254.

Crew. Pilot and ECMO 1,2,3.

DAS-451 1.7 T,C,R 1 or 2 EA-6B(s) A

Goal. Introduce/practice the aircrew requirements for bulk chaff operations. Sortie may be accomplished in conjunction with DAS, FEP, WASEX or RSEAD.

Requirements. Same as DAS-253, 254.

Performance Standards. Same as DAS-253, 254. With the addition of the following:

- (1) Prepare TUT mission.
- (2) Prepare jammer gameplan, to optimize chaff corridor.

Prerequisites. MAWTS-1 Bulk chaff lecture recommended.

Crew. Pilot and ECMO 1,2,3.

#### 7. Reactive Suppression of Enemy Air Defenses (RSEAD).

a. Purpose. Practice the tactical employment of the EA-6B in the OAS environment. The intent of the RSEAD-460 is to integrate strike aircraft for the destruction of mobile SAMs.

b. General. Scenarios should attempt to integrate external assets to the maximum extent possible. Sorties should include an S-2 intel brief/debrief/scenario and a TERPES brief/debrief.

##### c. Ground Training.

- (1) MAWTS-1 RSEAD lecture.
- (2) Fire Support Coordination Measures.
- (3) DASC/FSCC.

##### d. Pilot/ECMO Flight Training (1 Period, 1.7 Hours)

RSEAD-460 1.7 T,C,R 1 or 2 EA-6B(s) A

Goal. These sorties will utilize actual or simulated Fixed-wing and Rotary-wing strikers targeting SAM's short of and beyond the FSCL. Aircrew will practice the RSEAD manager mission.

Requirements. S-2 scenario providing friendly and enemy ground order of battle, SAMs/AAA, and Fire Support Coordination Measures is required.

Performance Standards. Complete the following:

- (1) Plot all appropriate fire support coordination measures and control points.
- (2) Develop appropriate TUT mission.
- (3) Practice ON AXIS, OFF AXIS, and RSEAD procedures.
- (4) Conduct runs using both time hacks and real world TOT.
- (5) Conduct a minimum of 1 fixed-wing RSEAD mission.
- (6) Conduct a minimum of 1 rotary-wing RSEAD mission.

(7) Prepare communications flow and reporting procedures.

(8) Utilize MAWTS-1 Fixed-wing and HELO RSEAD cards.

Prerequisites. RSEAD-262,263.

Crew. Pilot and ECMO 1/2/3.

Ordinance. BLK III,IV CATM.

#### 8. War At Sea (WASEX)

a. Purpose. To expose aircrews to the requirements and planning associated with a War at Sea exercise.

b. General. The EA-6B should focus on WASEX in the littoral environment, and supporting the MEU. Mission planning should focus on the specifics of shipborne radars and REC.

c. ECMO Simulator Training (1 Period, 2.0 Hours)

SWASEX-480      2.0      T,C,R   1 EA-6B S/A

Goal. Introduce WASEX tactics in the littoral.

Requirements. Event may be flown in the aircraft if simulator is unavailable or if it promotes training efficiency.

Performance Standards. Completion of the following:

- (1) Develop a TUT mission.
- (2) Develop HARM and jammer game-plan.
- (3) Employment of EA-6B iso amphibious operations.
- (4) S-2 scenario required.
- (5) S-2 and TERPES brief and debrief required.
- (6) Recommend at least two strikers.
- (7) Practice degraded operations.

Prerequisites. None.

Crew. ECMO 2/3.

d. Pilot/ECMO Flight Training (1 Period, 1.7 Hours)

WASEX-481      1.7      T,C,R   EA-6B A (N)

Goal. Introduce WASEX tactics in the littoral.

Requirements. None.

Performance Standards. Same as SWASEX-480, in addition:

- (1) Optimum NAV track.
- (2) USQ operations.
- (3) Expendables gameplan.

Prerequisites. None.

Crew. Pilot and ECMO 1.

Ordinance. 60 rounds chaff and CATM-88 Block III or IV.

## 9. Expeditionary Airfield (EAF) Operations

a. Purpose. To prepare aircrews for operation from a short, tactical, expeditionary airfield (EAF).

b. General. EAF qualification may be conducted as required when operational requirements dictate. Appropriate facility requirements include FCLP capability and short-field arresting gear. The pilot /ECMO 1 are considered EAF qualified upon the completion of one day and one night arrested landing.

c. Ground Training. The EAF lecture must be given prior to flight in this stage.

## d. Pilot and ECMO Simulator Training (1 Period, 1.5 Hours)

SEAF-490      1.5      T,C,R    2F143 S

Goal. Introduce the procedures and techniques required for EAF and FCLP operations.

Requirements. None.

Performance Standards. Complete the following:

- (1) Proper entry and departure procedures at the EAF.
- (2) Two Mode 2 approaches, 2 "Bullseye" approaches, and 2 GCAs.
- (3) Two night and two day arrested landings.
- (4) Deal with various landing emergencies associated with EAF operations.

Crew. Pilot/ECMO 1.

## e. Pilot/ECMO Flight Training (2 Flights, 2.0 hours)

EAF-491      1.0      T,C,R    E    1 EA-6B A

Goal. Obtain day EAF qualification.

Requirements. Field qualified LSO.

Performance Standards. Complete the following:

- (1) 1 arrested landing.
- (2) Proper entry and departure procedures from the EAF.

Crew. Pilot and ECMO 1.

Prerequisites. SEAF-490.

EAF-492      1.0      T,C,R    E    1 EA-6B A N

Goal. Obtain night EAF qualification.

Requirements. Field qualified LSO.

Performance Standards. Same as EAF-410 except flown at night.

Crew. Pilot and ECMO 1.

Prerequisites. EAF-491.

#### 10. Field Carrier Landing Practice (FCLP)/Carrier Qualification (CQ)

a. Purpose. To prepare the aircrew for operation from an aircraft carrier.

b. General

(1) FCLP will be conducted IAW current NATOPS and other applicable guidelines and under the control of a qualified LSO. Totals of graded passes may vary and the LSO is responsible for ensuring that the proficiency demonstrated by each pilot is sufficient for successful carrier qualification. The LSO will monitor the pilot's tendencies for all simulator events. Upon completion of the appropriate work-up period the LSO will provide written certification for all pilots. There is no requirement for certification/evaluation of ECMO's, but they will receive CRP credit for front-seat CQ sorties.

(2) All CQ aircrew will complete SCQ-495 prior to commencing CQ.

c. Ground Training. As directed by the LSO.

d. Pilot and ECMO Flight Training (2 Flights, 2.0 Hours)

FCLP-493 1.0 T,C,R E 1 EA-6B A

Goal. Practice day FCLP's.

Requirements. Field qualified EA-6B LSO. May be conducted as a single sortie or at the completion of another sortie. Performance Standards. Six graded passes under the control of a qualified LSO.

Crew. Pilot and ECMO 1.

External Syllabus Support. A field qualified LSO if the squadron does not possess one.

FCLP-494 1.0 T,C,R E 1 EA-6B A N

Goal. Practice night FCLP's.

Requirements. Same as FCLP-493 except at night.

Performance Standards. Same as FCLP-493 except at night.

Crew. Pilot and ECMO 1.

Prerequisites. At least 1 day FCLP period.

External Syllabus Support. A field qualified LSO if the squadron does not possess one.

e. Pilot/ECMO Simulator Training (1 Periods, 1.5 Hours)



SCQ-495 1.5 T,C,R 2F143 S

Goal. Introduce CV check-in, marshal, recovery, and departure procedures. Introduce communications and crew coordination requirements for successful carrier operations. Introduce CV emergencies.

Requirements. Instructor at the console.

Performance Standards. Complete the following:

- (1) 2 touch-and-go landings, 4 traps, and at least 4 cat shots.
- (2) Multiple Case I and II approaches.
- (3) Appropriate arrival and departure communications and procedures.
- (4) Deal with selected CV emergencies.

Crew. Pilot/ECMO 1.

f. Pilot and ECMO Flight Training (2 Flights, 3.5 Hours)

CQ-496 1.5 T,C,R E 1 EA-6B A

Goal. Day qualify for carrier operations.

Requirements. Under the control of a CV qualified EA-6B LSO.

Performance Standards. Complete required number of touch-and-go's and arrested landings per CV NATOPS.

Crew. Pilot and ECMO 1.

Prerequisites. LSO work-up certification.

External Syllabus Support. CV qualified EA-6B LSO if the squadron does not possess one.

CQ-497 2.0 T,C,R E 1 EA-6B A N

Goal. Night qualify for carrier operations.

Requirements. Under the control of a CV qualified EA-6B LSO.

Performance Standards. Complete required number of touch-and-go's and arrested landings per CV NATOPS.

Crew. Pilot and ECMO 1.

Prerequisites. LSO work-up certification.

External Syllabus Support. CV qualified EA-6B LSO if the squadron does not possess one.

## 250. INSTRUCTOR QUALIFICATION FLIGHTS/EVENTS

### 1. Defensive Tactics Instructor

a. Purpose. To prepare selected aircrew for certification as a Defensive Tactics Instructor (DEFTACI), capable of instructing EA-6B Defensive Tactics in flight and on the ground.

## b. General

(1) The EA-6B DEFTAC and DEFTACI syllabi are developed by MAWTS-1 and are outlined in the MAWTS-1 Course Catalog.

(2) All DEFTAC IUT's must be DEFTAC qualified and proficient in all DEFTAC sorties and have successfully completed the MAWTS-1 DEFTACI test prior to certification. DEFTAC IUT pilots must be designated DEFTAC section leads.

(3) The squadron WTI's (MOS 7577) and DEFTACIs will conduct a build-up to ensure that the Instructor Under Training (IUT) is prepared for certification by MAWTS-1. DEFTACI build-up will include, at a minimum, FAM-510 through DEFTAC-516. The IUT will brief, conduct, and debrief each event with a current DEFTACI or MAWTS-1 Instructor. Each build-up sortie should be flown in order and will be flown as a single event.

(4) All DEFTACI's will be certified by MAWTS-1. DEFTAC-512 and DEFTAC-516 are the certification flights and will be conducted IAW the MAWTS-1 Course Catalog. Upon certification by MAWTS-1, the DEFTACI designation will be made by the squadron commanding officer.

(5) The DEFTACI is subject to the same proficiency requirements as the DEFTAC qualified aircrew. If the DEFTACI loses currency, he may regain the ability to conduct in-flight instruction for all sorties by flying FAM-211 and DEFTAC-312. The DEFTACI qualification remains valid as long as the DEFTACI is DIFOP to the VMAQ/MAG/Wing/MAWTS-1 and meets his OPNAV flight hour minimums in the EA-6B.

(6) All flights in this stage will be flown IAW the ACM requirements delineated in T&R Manual, Volume 1.

c. Ground/Academic Training. The squadron DEFTACIs are responsible for ensuring that the IUT receives sufficient ground training before commencing the IUT syllabus. The DEFTAC IUT will be required to present one DEFTAC series lecture to the MAWTS-1 Instructor.

## d. Simulator Training (1 Period, 1.5 hours)

## e. DEFTAC IUT Flight Training (6 Flights, 9.0 Hours)

FAM-510      1.5      E   1 EA-6B A

Goal. Develop the DEFTAC IUT's ability to instruct/evaluate FAM-211.

Requirements. Flight requirements are set forth in the MAWTS-1 Course Catalog and FAM-211.

Performance Standards. The IUT will demonstrate to a DEFTACI, the ability to brief, debrief, instruct, and safely conduct FAM-211.

Crew. DEFTACI and IUT.

Prerequisites. Successful completion of the DEFTACI Test, DEFTAC-313.

DEFTAC-511      1.5      E   1 EA-6B vs 1 Dissimilar adversary A

Goal. Develop the DEFTAC IUT's ability to instruct/evaluate DEFTAC-310 (1v1 WVR).

Requirements. Flight requirements set forth in the MAWTS-1 Course Catalog and DEFTAC-310.

Performance Standards. The IUT will demonstrate to a proficient DEFTACI, the ability to brief, debrief, instruct, and safely conduct DEFTAC-310.

Crew. DEFTACI and IUT.

Prerequisites. FAM-510.

Ordinance. Same as DEFTAC-310.

External Syllabus Support. Same as DEFTAC-310.

DEFTAC-512 1.5 E 1 EA-6B A vs 1 Dissimilar Adversary A

Goal. 1 v 1 WVR Certification.

Requirements. Flight requirements set forth in the MAWTS-1 Course Catalog and DEFTAC-310.

Performance Standards. The IUT will demonstrate to a MAWTS-1 EA-6B instructor, the ability to brief, debrief, instruct, and safely conduct DEFTAC-310.

Crew. MAWTS-1 instructor and IUT.

Prerequisites. DEFTAC-511.

Ordinance. Same as DEFTAC-310.

External Syllabus Support. Same as DEFTAC-310.

SDEFTAC-513 1.5 E 1 EA-6B S

Goal. Develop the DEFTAC IUT's ability to instruct/evaluate SDEFTAC-311.

Requirements. Flight requirements set forth in the MAWTS-1 Course Catalog and SDEFTAC-311.

Performance Standards. The IUT will demonstrate to a squadron DEFTACI, the ability to brief, debrief, instruct, and conduct an SDEFTAC-311.

Crew. DEFTACI and IUT.

Prerequisites. DEFTAC-512.

Ordinance. Same as SDEFTAC-311.

DEFTAC-514 1.5 E 1 EA-6B vs 1 Dissimilar Adversary A

Goal. Develop the IUT's ability to instruct the DEFTAC-312 sortie.

Requirements. MAWTS-1 EA-6B Instructor. Flight requirements are set forth in the MAWTS-1 Course Catalog and DEFTAC-312.

Performance Standards. The IUT will demonstrate to a squadron DEFTACI the ability to brief, debrief, instruct, and safely conduct DEFTAC-312.

Crew. IUT and DEFTACI.

Prerequisites. DEFTAC-513.

Ordinance. Same as DEFTAC-312.

External Syllabus Support. Same as DEFTAC-312.

DEFTAC-515 1.5 E 2 EA-6B vs 1 Dissimilar Adversary A

Goal. Develop the IUT's ability to instruct the DEFTAC-313 sortie.

Requirements. MAWTS-1 EA-6B Instructor. Flight requirements are set forth in the MAWTS-1 Course Catalog and DEFTAC-313.

Performance Standards. The IUT will demonstrate to a squadron DEFTACI the ability to brief, debrief, instruct, and safely conduct DEFTAC-313.

Crew. IUT and DEFTACI.

Prerequisites. DEFTAC-313 for ECMOs, DEFTAC-314 for pilots and DEFTAC-514.

Ordinance. Same as DEFTAC-313.

External Syllabus Support. Same as DEFTAC-313.

DEFTAC-516 1.5 E 2 EA-6B vs 1 Dissimilar Adversary A

Goal. MAWTS-1 DEFTACI Certification.

Requirements. MAWTS-1 EA-6B Instructor. Flight requirements are set forth in the MAWTS-1 Course Catalog and DEFTAC-313.

Performance Standards. The IUT will demonstrate to a MAWTS-1 EA-6B instructor the ability to brief, debrief, instruct, and safely conduct DEFTAC-313.

Crew. IUT, MAWTS-1 Instructor, and DEFTACI if required.

Prerequisites. DEFTAC-515.

Ordinance. Same as DEFTAC-313.

External Syllabus Support. Same as DEFTAC-313.

## 2. Low Altitude Tactics Instructor (LATI)

a. Purpose. To prepare and certify selected aircrew as Low Altitude Tactics Instructors (LATI's) capable of instructing low altitude tactics in-flight and on the ground.

b. General

(1) The LAT and LATI programs are developed by MAWTS-1 and administered by MAWTS-1 or the squadron WTI. Certification requirements are outlined in the MAWTS-1 Course Catalog.

(2) Aircrew will be LAT qualified, proficient in all LAT sorties, current in the LAT series lectures, and have successfully completed the LATI Test prior to commencing the LAT IUT syllabus.

(3) The squadron WTI's will conduct a build-up program to ensure that the Instructor Under Training (IUT) is prepared for certification. The LATI build-up will include, at a minimum, SLAT-520, and LAT-521 through LAT-522. The IUT will brief, conduct, and debrief each event with a current LATI, WTI, or MAWTS-1 Instructor flying in the front-seat of his aircraft. Each build-up sortie should be flown in order. Two training events CANNOT be completed on one event.

(4) LATI's will be certified by a squadron WTI or MAWTS-1 Instructor. LAT-524 is the certification flight and will be conducted IAW the MAWTS-1 Course Catalog and T&R Manual, Volume 1. Upon certification, the LATI designation will be made by the squadron commanding officer.

(5) LATI's are subject to the same currency requirements as the LAT qualified aircrew and all flights in this stage will be flown IAW the LAT requirements outlined in T&R Volume 1.

c. Ground/Academic Training. The squadron WTI's will be responsible for establishing the LATI ground/academic training build-up. The LAT IUT will be required to present one LAT series lecture to the squadron WTI(s) or LAT I(s).

d. LAT IUT Simulator Training (1 Periods, 1.5 Hours)

SLAT-520      1.5      E    2F143 S

Goal. Develop the IUT's ability to instruct/evaluate LAT in the simulator (SLAT-320).

Requirements. LATI in the trainer with the IUT. Flight requirements are set forth in the MAWTS-1 Course Catalog and SLAT-320.

Performance Standards. The LATI will demonstrate to a LATI/WTI the ability to brief, debrief, instruct, and safely conduct SLAT-320.

Crew. LAT IUT and LATI.

Prerequisites. Successful completion of the LATI Test.

e. LAT IUT Flight Training (4 Flights, 6.8 Hours)

LAT-521 1.7 E 1 EA-6B A

This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Develop the IUT's ability to instruct/evaluate single ship LAT (LAT-321).

Requirements. Flight requirements are set forth in the MAWTS-1 Course Catalog and LAT-321.

Performance Standards. The IUT will demonstrate to a LATI/WTI the ability to brief, debrief, instruct, and safely conduct LAT-321.

Crew. LAT IUT and LATI.

Prerequisites. SLAT-520.

LAT-522 1.7 E 2 EA-6Bs A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Develop the IUT's ability to instruct and evaluate LAT-322.

Requirements. Flight requirements are set forth in the MAWTS-1 Course Catalog and LAT-322.

Performance Standards. The IUT will demonstrate to a LATI/WTI the ability to brief, debrief, instruct, and safely conduct LAT-322.

Crew. LAT IUT and LATI.

Prerequisites. LAT-521.

LAT-523 1.7 E 2 EA-6Bs A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Develop the IUT's ability to instruct/evaluate LAT-323.

Requirements. Flight requirements are set forth in the MAWTS-1 Course Catalog and LAT-323.

Performance Standards. The IUT will demonstrate to a LATI/WTI the ability to brief, debrief, instruct, and safely conduct LAT-323.

Crew. LAT IUT and LATI.

Prerequisites. LAT-522.

LAT-524 1.7 E 2 EA-6Bs A

"This event is classified as LAT and its execution below 1,000 ft is administratively restricted by DC/S Aviation. Each individual occurrence of this training event below 1,000 ft must receive advanced written consent from DC/S Aviation (Code: APP) prior to execution. Execution of this event with a 1,000 ft "hard deck" shall satisfy the requirements for completion and CRP/core-skills credit."

Goal. Certify the LAT IUT as a LATI. Develop the IUT's ability to instruct/evaluate LAT-420.

Requirements. Flight requirements are set forth in the MAWTS-1 Course Catalog and LAT-420.

Performance Standards. The IUT will demonstrate to a LATI/WTI the ability to brief, debrief, instruct, and safely conduct LAT-420.

Crew. LAT IUT and LATI.

Prerequisites. LAT-523.

## 251. SPECIAL PURPOSE TRACKING SORTIES

### 1. Check Flights

a. Purpose. Evaluate the aircrew's knowledge of NATOPS, the back-seat system, and instrument flight procedures. Evaluate the aircrew's knowledge of aircraft systems and adherence to post-maintenance procedures required for designation as a Functional Check Flight (FCF) pilot or ECMO. These flights/events are incorporated to facilitate tracking by ATRIMS.

#### b. General

(1) All checks will be IAW all applicable directives. NATOPS front seat and back-seat, Instrument, and FCF checks may be accomplished in the trainer or the airplane. ECMO's will complete instrument and front-seat NATOPS checks in the front-seat only. For pilots, the NATOPS Instructor will occupy the right front-seat. SCK-603 will be used to track Post Maintenance Evaluator training as well as daily PMCF's.

(2) The open-book NATOPS, closed-book NATOPS, and NATOPS simulator should be accomplished prior to the NATOPS flight. Instrument Ground School will be completed prior to the instrument check. The PME Test must be completed prior to the PMCF check.

(3) Squadrons, under the cognizance of the Marine Air Group, shall develop minimum requirements to designate Squadron NATOPS and Instrument Instructors/assistant instructors. The check sorties will also be utilized as part of the qualification phase for this training.

c. Ground/Academic Training. As per 250.4b. (2).

d. Pilot/ECMO Simulator Training (3 Periods, 4.5 Hours)

- SCHK-600      1.5      E    2F143/1 EA-6B S/A
- Goal. Evaluate the aircrew's knowledge of the front-seat system. NATOPS qualification. This sortie will also be used to qualify Squadron front-seat NATOPS instructors/assistant instructors.
- Requirements. Set forth in applicable directives.
- Performance Standards. IAW NATOPS.
- Crew. Evaluated crewmember and NATOPS Instructor or NATOPS evaluator if applicable.
- SCHK-601      1.5      E    15E22C/1 EA-6B S/A
- Goal. Evaluate the aircrew's knowledge of the back-seat system. Back-seat NATOPS qualification. This sortie will also be used to qualify Squadron back-seat NATOPS instructors/assistant instructors.
- Requirements. Set forth in applicable directives.
- Performance Standards. IAW NATOPS.
- Crew. Evaluated crewmember and back-seat NATOPS Instructor or NATOPS evaluator if applicable.
- SCHK-602      1.5      E    2F143/1 EA-6B S/A
- Goal. Evaluate the aircrew's knowledge of and adherence to standard instrument procedures. Instrument qualification. This sortie will also be used to qualify Squadron Instrument instructors/assistant instructors.
- Requirements. Set forth in applicable directives.
- Performance Standards. IAW NATOPS and the Instrument Flight Manual.
- Crew. Evaluated crewmember and Instrument Instructor or Instrument evaluator if applicable.
- SCHK-603      1.5      E    2F143/1 EA-6B S/A
- Goal. Evaluate the aircrew's knowledge of aircraft systems and adherence to standard FCF procedures. FCF qualification.
- Requirements. Set forth in applicable directives.
- Performance Standards. Per local directive.
- Crew. FCF under instruction and FCF pilot or ECMO.



## 2. Aircrew Coordination Training

a. Purpose. Expose the EA-6B aircrew to various scenarios that reinforce sound and optimum crew coordination techniques.

### b. General

(1) Aircrew Coordination Training (ACT) should occur throughout the year at the squadron level. Once a year the aircrew will complete a course that includes a more in-depth look at crew coordination.

(2) Aircrew must complete the ground portion of the ACT course and be current in SEP-200.

c. Ground/Academic Training. Aircrew should complete all squadron level academic classes associated with Aircrew Coordination Training (ACT) before commencing the yearly ACT course. Squadron level lectures dealing with aircrew coordination should be given throughout the year by graduates of an approved aircrew coordination course. Aircrew coordination lectures will be IAW T&R Manual, Volume 1.

### d. Pilot/ECMO Simulator Training (1 Periods, 1.5 Hours)

SACT-604      1.5      T,C,R   E   2F143/1 EA-6B S/A

Goal. When presented with a challenge, the aircrew will be able to establish/re-establish normal conditions and logical thought patterns using the seven crew coordination skills.

Requirements. Requirements will be delineated by the selected ACT scenario.

Performance Standards. Per ACT course objectives.

Prerequisites. ACT course completion.

Crew. Pilot/ECMO 1. Aircrew Coordination Training Instructor as an evaluator.

## 3. Strategic Tanking Requirements

a. Purpose. Aerial Refueling proficiency and currency on the KC-135 Strategic Tanker.

### b. General

(1) These codes are utilized to track aerial refueling currency on the KC-135. TRANSLANT/TRANSPAC movements and specific Theaters of Operation require 90 day currency in Strategic tanking.

c. Ground/Academic Training. Aircrew shall receive applicable KC-135 lecture and video training.

### d. Pilot Flight Training (2 Periods, 3.0 Hours)

AR-605      1.5      E   1 EA-6B A

Goal. Maintain pilot proficiency in KC-135 tanking.

Requirements. KC-135 tanker.

Performance Standards. Complete the following:

- (1) Proper Communications procedures.
- (2) Proper rendezvous procedures.
- (3) At least 3 wet/dry plugs for initial/refresher aircrew.
- (4) Minimum 1 successful plug for core squadron aircrew.

Crew. Pilot.

AR-606      1.5      E   1 EA-6B A N

Goal. Maintain pilot proficiency in KC-135 tanking.

Requirements. KC-135 tanker.

Performance Standards. Same as AR-605 except flown at night.

Crew. Pilot.

Prerequisites. AR-605.

#### 4. Initial/Refresher Training

a. Purpose. Back-in-the-saddle instrument training for aircrews who have not flown in the EA-6B for greater than 30 days and less than 12 months.

b. General. These codes may be used by aircrew for flights that do not complete the requirements set forth in the tactical portion of this syllabus. Squadron commanding officers will designate other refresher flights as they deem necessary.

c. Ground/Academic Training. None.

d. Simulator Training. At the discretion of the commanding officer.

e. Pilot and ECMO Flight Training (2 Flights, 3.4 Hours)

INST-607      1.7      R   1 EA-6B A

Goal. Review instrument procedures, aircraft systems, and squadron standard operating procedures.

Requirements. Flight within the air traffic control system. Squadrons may delineate further requirements for completion.

Performance Standards. Time/weather permitting, complete the following:

- (1) Normal ground, takeoff, and climb procedures.
- (2) Radar and instrument procedures.
- (3) Navigation system and radar integration.
- (4) TACAN approach.
- (5) Normal PAR.
- (6) No flap/no slat PAR.
- (7) Simulated single engine approach.
- (8) Simulated minimum fuel GCA.
- (9) Normal VFR pattern and touch-and-go's.

Crew. Initial/Refresher aircrew.

Prerequisites. Squadrons will designate the prerequisites.

INST-608 1.7 R 1 EA-6B A N

Goal. Review instrument procedures, aircraft systems, and squadron standard operating procedures.

Requirements. Flight within the air traffic control system. Squadrons may delineate further requirements for completion.

Performance Standards. Same as for INST-607 except flown at night.

Crew. Refresher aircrew.

Prerequisites. Squadrons will designate the prerequisites.

## 5. Formation Proficiency/Leadership Performance

a. Purpose. Maintain section/division proficiency in the EA-6B. Track/maintain flight leadership performance in the EA-6B.

### b. General.

(1) The proficiency codes shall be used by aircrew for flights that do not complete the requirements set forth in the tactical formation syllabus. A good example would be section sorties utilized to move aircraft to Yuma for the WTI course.

(2) The leadership performance codes shall be assigned to aircrew acting as the section/division lead during tactical sorties. These codes will update the Flight Leadership Training codes in the 300 series and thus maintain the allotted CRP for those missions.

(3) The leadership performance flights may also be utilized by Squadron Commanding Officers as "check hops" for prospective section/division leads. Additionally, these sorties will be utilized as warm-ups for Refresher aircrew prior to redesignation as section or division leaders.

c. Ground/Academic Training. None.

d. Simulator Training. At the discretion of the commanding officer.

e. Pilot and ECMO Flight Training (2 Flights, 3.4 Hours)

FORM-620 1.7 R 2 EA-6Bs A

Goal. Maintain proficiency in day section formation.

Requirements. This code is utilized primarily for scheduled tactical formation sorties which do not meet the requirements set forth in the 200 level syllabus. It also serves as a formation tracking tool for formation/division formation requirements/prerequisites.

Performance Standards. None.

Crew. Pilot/ECMO 1.

FORM-621 1.7 R 2 EA-6B A N

Goal. Maintain proficiency in night section formation.

Requirements. This code is utilized primarily for scheduled night formation sorties which do not meet the requirements set forth in the 200 level syllabus. It also serves as a tracking tool for night formation/division formation requirements/prerequisites.

Performance Standards. None.

Crew. Pilot/ECMO 1.

FORM-622 1.7 R 2 EA-6Bs A (N)

Goal. Demonstrate section leadership.

Requirements. This code is utilized to track and maintain section flight leadership performance and readiness and will be assigned to an aircrew who acts as a section lead for any mission. This sortie may also be utilized by Commanding Officers as a "check hop" for prospective section leads and for Refresher aircrew.

Performance Standards. Per local directive.

Crew. Pilot.

FORM-623 1.7 R 2 EA-6Bs A (N)

Goal. Maintain proficiency in division formation procedures.

Requirements. This code is utilized to track division proficiency such as an aircrew performing as dash-4 of a division leader under training sortie where no other tactical missions are accomplished.

Performance Standards. None.

Crew. Pilot/ECMO 1.

FORM-624 1.7 R 2 EA-6Bs A (N)

Goal. Demonstrate division leadership.

Requirements. This code is utilized to track and maintain division flight leadership performance and readiness and will be assigned to an aircrew who acts as a division lead for any mission. This sortie may also be utilized by Commanding Officers as a "check hop" for prospective division leads and for Refresher aircrew.

Performance Standards. Per local directive.

Crew. Pilot.

## 6. Mission Leadership Performance

- a. Purpose. Maintain mission leadership proficiency.

## b. General.

(1) Mission commanders must act in that capacity to maintain their proficiency and readiness as flight leaders. This flight allows Squadrons to track mission commander performance and will update all of the mission commander under training sorties in the combat qualification stage.

(2) The leadership performance flight may also be utilized by Squadron Commanding Officers as a "check hop" for prospective mission commanders. Additionally, it shall be used as a warm-up sortie for Refresher aircrew who have been out of the fleet for extended periods prior to redesignation as a mission commander.

c. Ground/Academic Training. None.

d. Simulator Training. None.

e. Pilot and ECMO Flight Training (1 Flights, 0.0 Hours)

CUT-650 0.0 R 1 EA-6B A (N)

Goal. Maintain proficiency in mission commander performance.

Requirements. Act as the mission commander for a tactical EA-6B mission.

Performance Standards. Per local directive.

Crew. Pilot/ECMO 1/2/3.

Prerequisites. Complete all mission commander under training sorties and designation as a mission commander.

## 7. Back Seat Procedures Proficiency

a. Purpose. Maintain proficiency in back seat operation of the Tactical Jamming System.

## b. General

(1) The proficiency codes shall be used by aircrew for flights that do not complete the requirements set forth in the tactical syllabus.

c. Ground/Academic Training. None.

d. Simulator Training. At the discretion of the commanding officer.

e. Pilot and ECMO Flight Training (1 Flight, 1.7 Hours)

EW-651 1.7 R 1 EA-6B S/A

Goal. Maintain proficiency in the back seat operation of the TJS.

Requirements. This code is utilized primarily for scheduled sorties which do not meet the requirements set forth in the tactical syllabus. Complete the following:

- (1) System turn-on
- (2) System bits
- (3) Pod burnout if applicable

Performance Standards. None.

Crew. ECMO 2/3.

252. WEAPONS AND TACTICS INSTRUCTOR (WTI). The student, after successfully completing the course of instruction conducted at MAWTS-1, fulfilling all the prerequisites set forth in the WTI operations Guide, and obtaining the DEFTACI and LATI is awarded the WTI MOS. The responsibilities of the WTI within the squadron are stated in MCO P3500.12.

260. ORDNANCE REQUIREMENTS. Annual ordnance requirements are developed on a "per crew" basis per OPNAVNOTE 8010.

1. Expendable Ordnance

ORDNANCE	200 Series	300 Series	400 Series	500 Series	ANNUAL
AGM-88			1		1*
	CHAFF	60	120	210	390
MJU-8 FLARES		300	210	240	750

2. Captive Ordnance

ORDNANCE	200 Series	300 Series	400 Series	500 Series	ANNUAL
ATM-88	2**	2**	2**		4**

\* One missile per squadron per year minimum requirement.

\*\* Indicates that there are that many sorties where one captive AGM-88 is required.

T&R MANUAL, VOLUME 2

AIRCRAFT: EA-6B		MOS: 7543		CREW POSITION: PILOT					
FLIGHT	TRNG		REFLY						
<u>STAGE</u>	<u>CODE</u>	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
COMBAT READY TRAINING									
SEP	200	1.5	3	0.50	X	X	X		S
SNAV	201	1.5	12	0.30	X	X	X		S
NAV	202	1.7	6	0.50	X	X	X		
	203	1.7	6	0.75	X	X	X		N
	204	1.7	6	0.50	X	X			
	205	1.7	6	1.00	X	X	X		
AR	206	1.7	3	0.70	X	X	X		
SFAM	207	1.7	12	0.30	X	X	X		S
SFAM	210	1.7	6	0.50	X	X	X		S
FAM	211	1.5	6	0.50	X	X	X	X	
FORM	220	1.7	6	1.00	X	X	X		
	221	1.7	6	1.00	X	X	X		N
	222	1.7	6	1.00	X	X	X		
THARM	230	2.0	12	0.30	X	X	X		TUT
SHARM	231	1.5	6	0.50	X	X	X		S
HARM	233	1.7	3	0.75	X	X	X		
ES	242	1.7	12	1.00	X	X	X		
SDAS	250	1.5	12	0.50	X	X	X		S
TDAS	252	2.0	12	0.30	X	X	X		TUT/S
DAS	253	1.7	6	1.00	X	X	X		
SRSEAD	260	1.5	6	0.50	X	X	X		S
RSEAD	262	1.7	6	1.00	X	X	X		
SFP	270	1.5	6	0.30	X	X	X		S
EW	272	1.7	12	0.30	X	X	X		
COMBAT QUALIFICATION TRAINING									
AR	300	1.7	6	0.50	X	X	X		N
DEFTAC	310	1.5	9	0.50	X	X	X		
SDEFTAC	311	1.0	9	0.25	X	X	X		S
DEFTAC	312	1.5	9	0.50	X	X	X		
	313	1.5	9	0.50	X	X	X	X	
	314	1.5	24	0.25	X	X	X	X	
SLAT	320	1.5	12	0.25	X	X	X		S
LAT	321	1.5	6	0.50	X	X	X	X	
	322	1.5	6	0.50	X	X	X	X	
	323	1.5	6	0.50	X	X	X	X	

Figure 2-1.--MOS 7543 Refly Interval, Combat Readiness Percentage, Continued.

T&R MANUAL, VOLUME 2

AIRCRAFT: FLIGHT STAGE	EA-6B TRNG CODE	HRS	MOS: 7543 REFLY INTERVAL	CRP	T	C	R	E	PILOT REMARKS
FORM	324	1.7	24	0.50	X	X	X	X	
	325	1.7	24	0.50	X	X	X	X	
	326	1.7	24	0.50	X	X	X	X	N
	327	1.7	24	0.50	X	X	X	X	(N)
FORM	328	1.7	24	0.50	X	X	X	X	
	329	1.7	24	0.50	X	X	X	X	N
	330	1.7	24	0.50	X	X	X	X	(N)
MCUT	331	0.0	24	0.50	X	X	X	X	(N)
	332	0.0	24	0.50	X	X	X	X	(N)
ES	340	1.7	12	0.75	X	X	X		
MCUT	342	0.0	24	0.50	X	X	X	X	(N)
	343	0.0	24	0.50	X	X	X	X	(N)
DAS	350	1.7	12	1.00	X	X	X	X	(N)
MCUT	352	0.0	24	0.50	X	X	X	X	(N)
	353	0.0	24	0.50	X	X	X	X	(N)
SRSEAD	360	1.5	12	1.00	X	X	X		S
RSEAD	362	1.7	6	1.00	X	X	X		(N)
	364	1.7	12	0.75	X	X	X	X	N
MCUT	366	0.0	24	0.50	X	X	X	X	(N)
	367	0.0	24	0.50	X	X	X	X	(N)
	368	0.0	24	0.50	X	X	X	X	(N)
	369	0.0	24	0.50	X	X	X	X	(N)
FP	370	1.7	12	1.00	X	X	X		(N)
MCUT	372	0.0	24	0.50	X	X	X	X	(N)
	373	0.0	24	0.50	X	X	X	X	(N)
MCUT	380	0.0	24	0.50	X	X	X	X	(N)
FULL-COMBAT QUALIFICATION TRAINING									
AR	400	1.0	12	0.50	X	X	X		
DEFTAC	410	1.5	12	0.25	X	X	X	X	
LAT	420	1.5	6	0.25	X	X	X	X	
HARM	430	1.7	36	0.25	X	X	X	X	
ES	440	1.7	12	0.50	X	X	X		
DAS	450	1.7	12	0.50	X	X	X		
	451	1.7	12	0.25	X	X	X	X	
RSEAD	460	1.7	12	0.25	X	X	X		
WASEX	481	1.7	12	0.50	X	X	X		(N)

Figure 2-1.--MOS 7543 Refly Interval, Combat Readiness Percentage, Continued.



T&R MANUAL, VOLUME 2

AIRCRAFT: EA-6B		MOS: 7543			CREW POSITION: PILOT				
FLIGHT	TRNG		REFLY						
<u>STAGE</u>	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
SEAF	490	1.5	12	0.25	X	X	X		S
EAF	491	1.0	12	0.25	X	X	X	X	
	492	1.0	12	0.25	X	X	X	X	N
FCLP	493	1.0	12	0.25	X	X	X	X	
	494	1.0	12	0.25	X	X	X	X	N
SCQ	495	1.5	12	0.25	X	X	X		S
CQ	496	1.5	12	0.25	X	X	X	X	
	497	2.0	12	0.25	X	X	X	X	N
INSTRUCTOR QUALIFICATION <u>FLIGHTS</u> /EVENTS									
FAM	510	1.5	N/A	--				X	
DEFTAC	511	1.5	N/A	--				X	
	512	1.5	N/A	--				X	
	513	1.5	N/A	--				X	S
	514	1.5	N/A	--				X	
	515	1.5	N/A	--				X	
	516	1.5	N/A	--				X	
SLAT	520	1.5	N/A	--				X	S
LAT	521	1.7	N/A	--				X	
	522	1.7	N/A	--				X	
	523	1.7	N/A	--				X	
	524	1.5	N/A	--				X	
SPECIAL PURPOSE TRACKING SORTIES									
SCHK	600	1.5	12	--				X	S/A
SCHK	602	1.5	12	--				X	S/A
	603	1.5	N/A	--				X	S/A
SACT	604	1.5	12	--			X	X	
AR	605	1.5	3	--			X		KC-135
	606	1.5	3	--			X		KC-135, N
INST	607	1.7	N/A	--					
	608	1.7	N/A	--					N
FORM	620	1.7	N/A	--					
	621	1.7	N/A	--					N
FORM	622	1.7	N/A	--				X	(N)
FORM	623	1.7	N/A	--					(N)
FORM	624	1.7	N/A	--				X	(N)
MCUT	650	0.0	N/A	--				X	(N)

Figure 2-1.--MOS 7543 Refly Interval, Combat Readiness Percentage.

# PILOT FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
SEP	200	
SNAV	201	
NAV	202	
	203	202
	204	
	205	204
AR	206	
SFAM	207	
SFAM	210	
FAM	211	210
FORM	220	
	221	
	222	204, 220
THARM	230	
SHARM	231	230
HARM	233	
ES	242	
SDAS	250	
TDAS	252	
DAS	253	
SRSEAD	260	
RSEAD	262	260
SFP	270	
EW	272	
AR	300	206
DEFTAC	310	
SDEFTAC	311	
	312	311
	313	311, 312
	314	311, 312, 313
SLAT	320	
LAT	321	204
	322	204, 222, 321
	323	204, 222, 321, 322
FORM	324	220
	325	222
	326	221
	327	

Figure 2-2.--MOS 7543 Flight Update Chaining, Continued.

PILOT FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
FORM	328 329 330	
MCUT	331 332	230, 233 230, 233, 331
ES MCUT	340 342 343	242  242, 342
DAS MCUT	350 352 353	253 253, 254 253, 352
SRSEAD RSEAD	360 362 364	260 260, 262, 360 260, 262
MCUT	366 367 368 369	262 262, 366 262, 366, 367 262, 366, 367, 368
FP MCUT	370 372 373	 272 370
MCUT	380	
AR	400	206
DEFTAC	410	
LAT	420	
HARM	430	233
ES	440	
DAS	450 451	
WASEX	481	
SEAF EAF	490 491 492	  491
FCLP	493 494	 493
SCQ	495 496 497	 491, 493 491, 492, 493, 494

Figure 2-2.--MOS 7543 Flight Update Chaining, Continued.

# PILOT FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
FAM	510	211
DEFTAC	511	310
	512	310
SDEFTAC	513	311
	514	312, 311
	515	313, 311, 312
	516	313, 311, 312
SLAT	520	
LAT	521	204, 321
	522	204, 220, 222, 321, 322, 323
	523	204, 220, 222, 321, 322, 323
	524	420
SCHK	600	
	602	
	603	
SCHK	604	
AR	605	206
	606	206, 300
INST	607	
	608	
FORM	620	
	621	
FORM	622	324, 325, 326, 327, 620
FORM	623	
	624	328, 329, 330, 623
MCUT	650	331, 332, 342, 343, 352, 353, 366, 367, 368, 369, 372, 373, 380

Figure 2-2.--MOS 7543 Flight Update Chaining.

## T&amp;R MANUAL, VOLUME 2

AIRCRAFT: EA-6B		MOS: 7588			CREW POSITION: ECMO				
FLIGHT	TRNG		REFLY						
<u>STAGE</u>	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
COMBAT READY TRAINING									
SEP	200	1.5	3	0.50	X	X	X		S
SNAV	201	1.5	12	0.30	X	X	X		S
NAV	202	1.7	6	0.50	X	X	X		
	203	1.7	6	0.50	X	X	X		N
	204	1.7	6	0.50	X	X	X		
	205	1.7	6	0.50	X	X	X		
AR	206	1.7	6	0.25	X	X	X		
SFAM	210	1.7	6	0.30	X	X	X		S
FAM	211	1.5	12	0.50	X	X	X	X	
FORM	220	1.7	12	0.50	X	X	X		
	221	1.7	12	0.50	X	X	X		N
	222	1.7	6	0.75	X	X	X		
THARM	230	2.0	6	0.50	X	X	X		
SHARM	231	1.5	6	0.50	X	X	X		S
	232	1.5	6	0.50	X	X	X		S
HARM	233	1.7	3	0.50	X	X	X		
	234	1.7	3	0.50	X	X	X		
SES	240	2.0	6	0.30	X	X	X		S
	241	2.0	6	0.30	X	X	X		S
ES	242	1.7	12	0.50	X	X	X		
	243	1.7	6	0.75	X	X	X		
SDAS	250	1.5	12	0.30	X	X	X		S
	251	1.5	12	0.30	X	X	X		S
TDAS	252	2.0	12	0.30	X	X	X		S
DAS	253	1.7	6	0.50	X	X	X		
	254	1.7	6	0.75	X	X	X		
SRSEAD	260	1.5	6	0.50	X	X	X		S
	261	1.5	6	0.50	X	X	X		S
RSEAD	262	1.7	6	0.50	X	X	X		
	263	1.7	6	0.50	X	X	X		
SFP	270	1.5	6	0.30	X	X	X		S
	271	1.5	12	0.30	X	X	X		S
EW	272	1.7	12	0.30	X	X	X		
COMBAT QUALIFICATION TRAINING									
DEFTAC	310	1.5	9	0.50	X	X	X		
SDEFTAC	311	1.0	9	0.25	X	X	X		S
DEFTAC	312	1.5	9	0.50	X	X	X		
	313	1.5	9	0.75	X	X	X	X	

Figure 2-3.--MOS 7588 Refly Interval, Combat Readiness Percentage, Continued.

## T&amp;R MANUAL, VOLUME 2

AIRCRAFT:	EA-6B		MOS:	7588	CREW POSITION:				ECMO
FLIGHT	TRNG		REFLY						
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
SLAT	320	1.5	12	0.25	X	X	X		S
LAT	321	1.5	6	0.50	X	X	X	X	
	322	1.5	6	0.50	X	X	X	X	
	323	1.5	6	0.50	X	X	X	X	
MCUT	331	0.0	24	0.50	X	X	X	X	(N)
	332	0.0	24	0.50	X	X	X	X	(N)
ES	340	1.7	12	1.00	X	X	X		
	341	1.7	12	1.00	X	X	X		
MCUT	342	0.0	24	0.50	X	X	X	X	(N)
	343	0.0	24	0.50	X	X	X	X	(N)
DAS	350	1.7	12	1.00	X	X	X	X	(N)
	351	1.7	12	1.00	X	X	X	X	(N)
MCUT	352	0.0	24	0.50	X	X	X	X	(N)
	353	0.0	24	0.50	X	X	X	X	(N)
SRSEAD	360	1.5	12	0.50	X	X	X		S
	361	1.5	12	0.50	X	X	X		S
RSEAD	362	1.7	6	1.00	X	X	X		(N)
	363	1.7	6	1.00	X	X	X		(N)
	364	1.7	12	0.75	X	X	X	X	N
	365	1.7	12	0.75	X	X	X	X	N
MCUT	366	0.0	24	0.50	X	X	X	X	(N)
	367	0.0	24	0.50	X	X	X	X	(N)
	368	0.0	24	0.50	X	X	X	X	(N)
	369	0.0	24	0.50	X	X	X	X	(N)
FP	370	1.7	12	1.00	X	X	X		
MCUT	372	0.0	24	0.50	X	X	X	X	(N)
	373	0.0	24	0.50	X	X	X	X	(N)
	380	0.0	24	0.50	X	X	X	X	(N)
FULL-COMBAT QUALIFICATION TRAINING									
DEFTAC	410	1.5	12	0.25	X	X	X	X	
LAT	420	1.5	6	0.25	X	X	X	X	
HARM	430	1.7	36	0.25	X	X	X	X	
ES	440	1.7	12	0.50	X	X	X		
DAS	450	1.7	12	0.50	X	X	X		
	451	1.7	12	0.25	X	X	X	X	
RSEAD	460	1.7	12	0.25	X	X	X		
SWASEX	480	2.0	12	0.50	X	X	X		S
WASEX	481	1.7	12	0.50	X	X	X		(N)
SEAF	490	1.5	12	0.25	X	X	X		S
EAF	491	1.0	12	0.25	X	X	X		
	492	1.0	12	0.25	X	X	X	X	N

Figure 2-3.--MOS 7588 Refly Interval, Combat Readiness Percentage, Continued.

T&R MANUAL, VOLUME 2

AIRCRAFT:	EA-6B		MOS:	7588		CREW POSITION:				ECMO
FLIGHT	TRNG		REFLY							
<u>STAGE</u>	<u>CODE</u>	<u>HRS</u>	<u>INTERVAL</u>	<u>CRP</u>	<u>T</u>	<u>C</u>	<u>R</u>	<u>E</u>	<u>REMARKS</u>	
FCLP	493	1.0	12	0.25	X	X	X	X		
	494	1.0	12	0.25	X	X	X	X		N
SCQ	495	1.5	12	0.25	X	X	X			
CQ	496	1.5	12	0.25	X	X	X	X		
	497	2.0	12	0.25	X	X	X	X		N
INSTRUCTOR QUALIFICATION <u>FLIGHTS</u> /EVENTS										
FAM	510	1.5	N/A	--				X		
DEFTAC	511	1.5	N/A	--				X		
	513	1.5	N/A	--				X		S
	514	1.5	N/A	--				X		
	515	1.5	N/A	--				X		
	516	1.5	N/A	--				X		
SLAT	520	1.5	N/A	--				X		S
LAT	521	1.7	N/A	--				X		
	522	1.7	N/A	--				X		
	523	1.7	N/A	--				X		
	524	1.7	N/A	--				X		
SPECIAL PURPOSE TRACKING SORTIES										
SCHK	600	1.5	12	--				X		S/A
	601	1.5	12	--				X		S/A
	602	1.5	12	--				X		S/A
	603	1.5	N/A	--				X		S/A
SACT	604	1.5	12	--			X	X		S/A
INST	607	1.7	N/A	--			X			
	608	1.7	N/A	--			X			N
FORM	620	1.7	N/A	--			X			
	621	1.7	N/A	--			X			N
FORM	623	1.7	N/A	--						(N)
MCUT	650	0.0	N/A	--				X		(N)
EW	651	1.7	N/A	--						

Figure 2-3.--MOS 7588 Refly Interval, Combat Readiness Percentage.

## ECMO FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
SEP	200	
SNAV	201	
NAV	202	
	203	202
	204	
	205	204
AR	206	
SFAM	210	
FAM	211	210
FORM	220	
	221	
	222	204, 220
THARM	230	
SHARM	231	230
	232	230
HARM	233	
	234	
SES	240	
	241	240
ES	242	
	243	
SDAS	250	
	251	
TDAS	252	
DAS	253	
	254	
SRSEAD	260	
RSEAD	261	
	262	260
	263	261
SFP	270	
	271	
EW	272	
DEFTAC	310	
SDEFTAC	311	
	312	311
	313	311, 312
SLAT	320	
LAT	321	204
	322	204, 222, 321
	323	204, 222, 321, 322

Figure 2-4.--MOS 7588 Flight Update Chaining, Continued.



## ECMO FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
MCUT	331	230, 233, 234
	332	230, 233, 234, 331
ES	340	242
	341	243
MCUT	342	242, 243
	343	242, 243, 342
DAS	350	253
	351	254
MCUT	352	253, 254
	353	253, 254, 352
SRSEAD	360	260
	361	261
RSEAD	362	260, 262, 360
	363	261, 263, 361
	364	260, 262
	365	261, 263
MCUT	366	262, 263
	367	262, 263, 366
	368	262, 263, 366, 367
	369	262, 263, 366, 367, 368
FP	370	
MCUT	372	272
	373	370
MCUT	380	
DEFTAC	410	
LAT	420	
HARM	430	233, 234
ES	440	
DAS	450	
	451	
SWASEX	480	
WASEX	481	
SEAF	490	
EAF	491	
	492	491
FCLP	493	
	494	493
SCQ	495	
	496	491, 493
	497	491, 492, 493, 494

Figure 2-4.--MOS 7588 Flight Update Chaining, Continued.

## ECMO FLIGHT UPDATE CHAINING

<u>STAGE</u>	<u>FLIGHT</u>	<u>FLIGHTS UPDATED</u>
FAM	510	211
DEFTAC	511	310
	512	310
SDEFTAC	513	311
	514	312, 311
	515	313, 311, 312
	516	313, 311, 312
SLAT	520	
LAT	521	204, 321
	522	204, 220, 222, 321, 322, 323
	523	204, 220, 222, 321, 322, 323
	524	420
SCHK	600	
	601	
	602	
	603	
SACT	604	
INST	607	
	608	
FORM	620	
	621	
FORM	623	
MCUT	650	331, 332, 342, 343, 352, 353, 366, 367, 368, 369, 372, 373, 380
EW	651	

Figure 2-4.--MOS 7588 Flight Update Chaining.

CHAPTER 3  
F/A-18 PILOT/WSO

CANCELED VIA MCO 3500.46

T&R MANUAL VOLUME 2

CHAPTER 6

KC-130 PILOT

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\* \* NOTE \* \*

Aircrew coordination shall be briefed before all flights and events.

MARINE AERIAL REFUELING SQUADRON - KC-130  
UNIT TEMPLATE

## NOTE

The capabilities defined and described in the core capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgement of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long term health and readiness of his unit while staying within his resource constraints.

## 1. TABLE OF ORGANIZATION

PAA-12 A/C: 26 TPC/16 T2P or T3P/23 NAV/25 F ENG/24 LOADM/24 F MECH

## 2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situation dependent.

b. A core capable squadron is able to sortie two divisions (-) of mission capable aerial refueling aircraft and within four hours of landing, sortie two more sections or sortie three sections of mission capable assault support aircraft and within four hours of landing, sortie two more sections. Perform the above from either a main base location or appropriate sized expeditionary airfield. All aircraft are capable of aerial and rapid ground refueling, assault support and two platforms being DE/IRCM equipped.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew who are at least 75% complete in each listed core skill.

CORE SKILLS	CREWS	REMARKS
RW/FW AR	12	
RGR	8	
TLZ/EMF	8	
AD	6	
FORM	12	
LONG RANG NAV	12	
LOW LEVEL	6	

## 4. REQUIRED CORE SKILLS AND SORTIES

	RW/FW AR	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL	TOTAL
RAC	4	0	1	1	4	2	3	15
	110, 111, 112, 113X,		170	140	130, 131, 132, 133X	150, 151,	120,121 122X	15
1st TOUR	10	2	5	7	8	2	2	36
2nd TOUR	4	0	1	1	0	0	1	7
T&R CODES	200*, 201*, 210, 211, 212*, 213 310, 311, 312, 333*	273, 274	270, 271*, 272, 370,371	240,241 240*, 341, 342, 343,344	230, 231, 232, 233, 234, 330, 331, 332	250, 251	220*,	221

\* = 2nd Tour

5. SORTIES REQUIRED TO MAINTAIN CORE SKILLS. For each twelve month period after achieving competency, a pilot would be required to fly the following number of sorties in each skill area to maintain that competency.

	RW/FW AR	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL	TOTAL
PILOT	14	2	9	7	12	2	2	48

6. FLIGHT LEADER/INSTRUCTOR QUALIFICATIONS. As a minimum, in order for a squadron to be considered Core Competent, it must possess the following numbers of aircrew in the listed flight leadership instructor categories. (Note: If the squadron is < T/O, required numbers are reduced by a like %)

DESCRIPTION	CORE MINIMUM	REMARKS
TPC	16	
SEC LDR	8	
DIV LDR	6	
LATI	4	
ANI/INSTI	4	PER CREW POSITION
WTI/WTACI	2	PER CREW POSITION
RAC	4	
DEFTAC I	2	
NSI	2	PER CREW POSITION
FCF	12	
RC	2	

## 7. SORTIES REQUIRED TO OUALIFY FOR DESIGNATION AS FLIGHT LD/IP

SORTIES T&R CODES	TPC 5	SECT LDR 1	DIV LDR 1	LATI 4	DEFACTI 4	NSI 1
	390, 391, 392, 393, 394	395	396	532, 533, 534, 591	462, 463, 464, 592,	593



KC-130 PILOT CORE PROGRESSION MODEL

T&R MANUAL VOLUME 2

# KC-130 NAVIGATOR CORE PROGRESSION MODEL

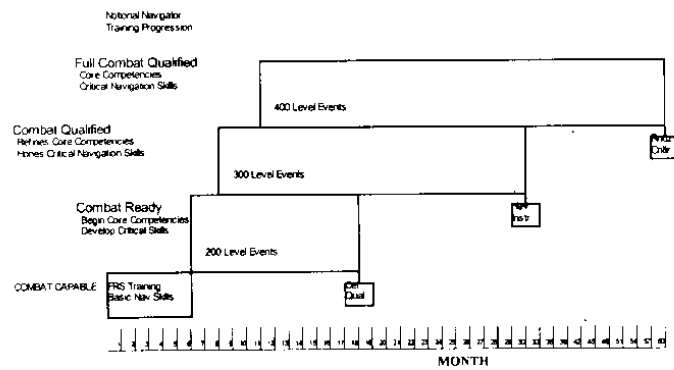


Fig 6-1..Navigator Notional Training Progression Model

600. PROGRAMS OF INSTRUCTION (P01) FOR BASIC/TRANSITION/CONVERSION PILOT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-7	C-130P Course	34th TATG/VMGRT-253
8-28	Combat Capable Training	VMGRT-253
29-81	Combat Ready Training	Tactical Squadron
82-156	Combat Qualification Training	Tactical Squadron
157-208	Full-Combat Qualification Training	Tactical Squadron

601. P01 FOR REFRESHER PILOT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-8	Combat Capable Training	Training Squadron
9-26	Combat Ready Training	Tactical Squadron
27-39	Combat Qualification Training	Tactical Squadron
40-52	Full-Combat Qualification Training	Tactical Squadron

602. P01 FOR INSTRUCTOR PILOT

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Simulator (OFT/WST)	Training/Tactical Squadron
1	Familiarization/Instruments	Training/Tactical Squadron
1	Formation	Training Squadron
1	Low Level Navigation	Training Squadron
1	Air Refueling	Training Squadron
1	NATOPS	Training/Tactical Squadron
1	Low Altitude Tactics	MAWTS-1/Tactical Squadron
1	Defensive Tactics	MAWTS-1
7	Weapons and Tactics	MAWTS-1
4	Night Systems	MAWTS-1

603. SPECIAL DESIGNATIONS

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Functional Check Flight	Training/Tactical Squadron
104	Transport Plane Commander	Tactical Squadron
52	Transport Second Pilot (T2P)	Tactical Squadron
24	Transport Third Pilot (T3P)	Training Squadron
1	Instrument Flight Board	Training/Tactical Squadron
3	Section Leader	Training/Tactical Squadron
3	Division Leader	Tactical Squadron
1	Refueling Area Commander (RAC)	Tactical Squadron

610. GROUND TRAINING COURSES OF INSTRUCTION

1. Ground/academic training shall be conducted for each phase/stage of the syllabus.

2. Squadron level ground/academic courses of instruction required to complete the syllabus are listed in each phase/stage description.

3. External ground/academic courses of instruction required to complete the syllabus are listed below (asterisked courses also have flight and/or simulator training):

COURSE	ACTIVITY
USAF C-130P/PRU Course	34 TATG/VMGRT-253
Level C Survival, Evasion, Resistance, and Escape (SERE) Course	NAS Brunswick, ME or NAS North Island, CA
Central Altitude Reservation Facility Indoc.	Regional ARTCC
* Weapons and Tactics Instructor Course	MAWTS-1
* Defensive Tactics	MAWTS-1/Tactical Squadron

4. External ground/academic courses of instruction recommended to complete the syllabus listed below (asterisked courses also have flight and/or simulator training):

COURSE	ACTIVITY
* Advanced Airlift Tactics Training Course	AATTC, St. Joseph, MO
Combat Aircrew Training	MAC CATS, Nellis AFB
Environmental Survival Courses	Regional/Seasonal Survival Schools

611. AIRCREW TRAINING REFERENCES. The following references shall be utilized to ensure safe and standardized training procedures, grading criteria, and aircraft operation:

- NATOPS General Flight and Operating Instructions (OPNAV 3710.7)
- NATOPS Flight Manuals (NFM)
- NATOPS Instrument Flight Manual
- NATOPS Air Refueling Manual
- KC-130 Tactical Manual (TACMAN)
- T&R Manual, Volume 1
- MAWTS-1 Course Catalog

620. FLIGHT TRAINING: BASIC. TRANSITION. AND CONVERSION PILOT

1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS/EVENTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Basic Qualification	--	- -	25.0
Simulator Training	20	72.0	11.0
Familiarization/Instruments	10	30.0	7.0
Air Refueling	4	12.0	3.5
Low Level Navigation	3	6.0	3.0
Formation	4	8.0	3.5
Air Delivery	1	2.0	1.0
Long Range Navigation	2	16.0	2.0
Temporary Landing Zone	1	2.0	1.0
NATOPS Check	1	3.0	3.0
Aircraft/Simulator	26/20	79.0/72.0	60.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Familiarization/Instruments	2	6.0	1.0
Air Refueling (Fixed-Wing)	2	8.0	1.8
Air Refueling (Rotary-wing)	2	8.0	1.8
Low Level Navigation	2	8.0	1.0
Formation	5	18.0	3.0
Air Delivery	2	6.0	1.0
Long Range Navigation	2	18.0	0.9
Temporary Landing Zone (TLZ)	3	8.0	2.5
Rapid Ground Refueling (RGR)	2	4.0	1.0
NATOPS Check	1	3.0	1.0
	23	87.0	15.0

## 3. Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Air Refueling (Fixed-Wing)	2	8.0	1.8
Multi-plane Air Refueling	2	12.0	2.0
Section Low Level Form	2	7.0	1.6
Formation (Div)	1	4.0	0.8
Air Delivery	5	17.0	3.0
Aircraft Survivability Equipment	1	2.0	0.3
Temporary Landing Zone (TLZ)	2	6.0	2.5
Transport Pilot Check	5	42.0	6.0
Formation Leader Check	2	8.0	2.0
	22	106.0	20.0

## 4. Full-Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Altitude Tactics (LAT)	3	9.0	1.5
Aircraft Survivability Equipment	2	6.0	1.0
DEFTAC	3	6.0	1.5
Refueling Area Commander	1	8.0	1.0
	9	29.0	5.0
SYLLABUS TOTAL (100-400)	80	301.0	100.0

## 621. REFRESHER PILOT TRAINING

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization/Instruments	5	15.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization	2	6.0
Air Refueling	1	4.0
Low Level Nav	1	4.0
Temporary Landing Zone	1	3.0
T2P Check	1	3.0
	6	20.0

## 3. Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Air Refueling	1	6.0
Air Delivery	1	3.0
TPC Check	1	3.0
	3	12.0
TOTAL	14	47.0

## 622. INSTRUCTOR UNDER TRAINING (IUT) PILOT

## 1. Simulator (OFT/WST) Instructor

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization and Standardization	2	4.0

## 2. Instructor Under Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization/Instruments	3	7.0
Format ion	2	4.0
Low Level Navigation	2	4.0
Air Refueling	2	6.0
	9	21.0

## 3. NATOPS Instructor

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Standardization	1	3.0

## 4. Low Altitude Tactics Instructor (LATI)

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Low Altitude Tactics	4	4.0

5. Defensive Tactics Instructor (DEFTACI). See the MAWTS-1 Course Catalog.

6. Weapons and Tactics Instructor (WTI). See the MAWTS-1 Course Catalog.

7. Night Systems Instructor (NSI). See the MAWTS-1 Course Catalog.

## 623. SPECIAL FLIGHT TRAINING

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Functional Check Flight Pilot	1	2.0
Night Systems Qualification (NSQ)	9	13.5
Instrument	2	4.0
	12	19.5

630. SIMULATOR TRAINING. Approved IFARS simulators are contained in OPNAVINST 3710.7\_. If an approved simulator is not available, unapproved simulators may be used for simulator training at the discretion of the squadron commander. Unapproved simulator time may not be usable for annual flight time minima.

## 631. SIMULATOR TRAINING FOR BASIC, TRANSITION, AND CONVERSION PILOT

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization/ Instruments	15	60.0
Air Refueling	1	4.0
Low Level Navigation	2	4.0
Post Maintenance Check Flight	1	2.0
Temporary Landing Zone	1	2.0
	20	72.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization/Instruments	1	2.0
Low Level Navigation	2	4.0
Formation	2	6.0
Air Delivery	1	3.0
Temporary Landing Zone	1	3.0
	7	18.0

## 3. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Low Level Formation	1	3.0
TPC Upgrade	9	27.0
Air Delivery	1	3.0
Aircraft Survivability Equipment	1	3.0
Temporary Landing Zone	1	3.0
	13	39.0

## 4. Full-Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Low Altitude Tactics	2	6.0
Aircraft Survivability Equipment	1	3.0
TOTAL	3	9.0
SYLLABUS TOTAL (100-400)	43	138.0

## 632. SIMULATOR TRAINING FOR REFRESHER PILOT

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization/Instruments	5	20.0

## 640. FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

## 1. General

a. The time required to train a KC-130 pilot to full-combat qualification will vary depending on previous pilot experience. Basic, transition, and conversion pilots should fly the entire syllabus. Refresher pilots represent a varying background and should fly flights coded with an "R." Commanding officers will review the qualifications, previous experience, currency, and demonstrated ability of refresher pilots with a view towards waiving and/or combining required flights.

b. Once a pilot has completed the combat capable series and maintains currency in type and model, no requirement exists to refly combat capable flights.

c. Flights annotated with an "N" shall be flown at night. Flights annotated with an "(N)" may be flown at night.

d. All simulator ("S") training codes should be flown prior to the first flight in the aircraft for that stage/phase.

e. All flights annotated with an "E" shall be evaluated per the T&R Manual, Volume 1.

f. Minimum required refresher flights are indicated with an "R." Additional guidance concerning refresher pilots is contained in the T&R Manual, Volume 1.

2. Aircrew Coordination. Aircrew coordination shall be briefed for all flights and/or events.

## 641. COMBAT CAPABLE TRAINING

## 1. Familiarization/Instruments

a. Purpose. Familiarize pilots with fundamental KC-130 NATOPS, instrument, and crew coordination procedures.

## b. General

(1) Basic, transition, conversion, and refresher third pilots (T3P) shall be trained and evaluated in the right seat. TPC and T2P refresher pilots should be trained and evaluated in the left seat. A minimum of two (N) coded flights shall be flown at night.

(2) Basic, transition, and conversion pilots should complete the USAF C-130P course prior to this stage.

## c. Ground Training

(1) Prior to FAM-100, all basic/transition/conversion pilots will complete a familiarization training evolution to include cockpit management, aircraft preflight, emergency evacuation and use and donning of all emergency equipment to include bailout training.

(2) Combat Capable Syllabus Overview.

(3) NATOPS Flight Manual.

(4) TFOA Inspections.

(5) USMC VMGR Squadron Mission Statement and Tasks.

(6) Six Functions of Marine Aviation and VMGR Involvement.

(7) KC-130 Capabilities Review.

(8) Introduction to Nite Lab.

## d. Simulator Training (15 Periods. 60.0 Hours)

SFAM-00            14.0            CPT/OFT/WST    S

Goal.    Train the pilot in checklist procedures.

Requirement.    Introduce expanded cockpit checklists up to and including the run up checklist.

Performance Standard.    Per the NFM.

SFAM-002            4.0            CPT/OFT/WST    S

Goal.    Train the pilot in checklist procedures.

Requirement.    Introduce expanded cockpit checklists up to and including the after landing checklist.    Practice previously introduced checklists.

Performance Standard.    Per the NFM.

SFAM-003            4.0            CPT/OFT/WST    S

Goal.    Train the pilot in normal procedures and system malfunctions.

Requirement.    Introduce start malfunctions.    Practice normal checklists.

Performance Standard.    Per the NFM.

SFAM-004            4.0            CPT/OFT/WST    S

Goal.    Train the pilot in normal procedures, system malfunctions, and emergency procedures.

Requirement.    Introduce ground emergencies.    Practice normal checklists and start malfunctions.



- Performance Standard. Per the NFM.
- SFAM-005            4.0                    R E CPT/OFT/WST    S
- Goal. Cockpit procedures stage progress review.
- Requirement. Review normal checklists and start malfunctions. Practice ground emergencies.
- Performance Standard. Per the NFM.
- SFAM-006            4.0                    OFT/WST    S
- Goal. Train the pilot in normal procedures, system malfunctions, and emergency procedures.
- Requirement. Introduce VFR departure and climb, basic airwork, VFR approach, landings, and aborts.
- Performance Standard. Per the NFM.
- SFAM-007            4.0                    OFT/WST    S
- Goal. Train the pilot in normal procedures, system malfunctions, and emergency procedures.
- Requirement. Introduce steep turns and approach to stalls.
- Performance Standard. Per the NFM.
- SINST-008           4.0                    OFT/WST    S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce flight planning, clearance procedures, radio navaid IFF/SIF management, and GCA approaches. Performance Standard. Per the NFM.
- SINST-009           4.0                    OFT/WST    S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce ILS procedures.
- Performance Standard. Per the NFM.
- SINST-010           4.0                    OFT/WST    S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce TACAN, VOR, and ADF approaches. Introduce holding.
- Performance Standard. Per the NFM.

- SINST-011      4.0                      OFT/WST   S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce circling approaches, and penetrations/high approaches.
- Performance Standard. Per the NFM.
- SINST-012      4.0                      R   OFT/WST   S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce engine-out approaches, landings, and missed approach/go-around procedures. Introduce takeoff continued after engine failure.
- Performance Standard. Per the NFM.
- SINST-013      4.0                      R   OFT/WST   S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Introduce two engine approach, landing, and go-around. Introduce partial panel/no gyro approach.
- Performance Standard. Per the NFM.
- SINST-014      4.0                      R   OFT/WST   S
- Goal. Train the pilot in normal procedures, system malfunctions, emergency procedures, and instrument procedures.
- Requirement. Practice all previously introduced procedures and system malfunctions.
- Performance Standard. Per the NFM.
- SINST-015      4.0                      R   E   OFT/WST   S
- Goal. Simulator stage progress review.
- Requirement. Review all previously introduced procedures and system malfunctions.
- Performance Standard. Per the NFM.

e. Flight Training (10 Flights. 30.0 Hours)

- FAM-100      3.0                      1 KC-130   A
- Goal. Train the pilot in normal flight procedures.
- Requirement. Introduce preflight, taxi, take-off, VFR departure, aerodynamic performance, stability & control, approach to stalls, VFR approach, VFR break, 100 percent and 50 percent flap landings.

Performance Standard. Per the NFM.

INST-101 3.0 R 1 KC-130 A

Goal. Train the pilot in normal and instrument flight procedures.

Requirement. Introduce instrument departure, basic instrument maneuvers (to include timed turns, climbs, and descents), and GCA procedures. Practice 100 percent and 50 percent flap landings. Refreshers should complete this flight concurrently with FAM-100.

Performance Standard. Per the NFM and IFM.

INST-102 3.0 1 KC-130 A (N)

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce ILS/Localizer procedures. Introduce ground emergencies. Practice 100 percent and 50 percent flap landings.

Performance Standard. Per the NFM and IFM.

INST-103 3.0 R 1 KC-130 A (N)

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce TACAN, VOR, and ADF approaches. Practice 100 percent and 50 percent flap landings. Refreshers should complete this flight concurrently with INST-102.

Performance Standard. Per the NFM and IFM.

INST-104 3.0 1 KC-130 A (N)

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce abort procedure. Introduce holding, circling approaches, and penetrations/high approaches. Introduce in-flight emergencies. Practice 100 percent and 50 percent flap landings.

Performance Standard. Per the NFM and IFM.

INST-105 3.0 R 1 KC-130 A

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce engine-out operations. Introduce three engine precision approaches, landings, missed approaches/go-arounds. Flight will be conducted in day VMC conditions. Refreshers should complete this flight concurrently with INST-104. Refreshers do not have the day VMC restriction.

Performance Standard. Per the NFM and IFM.

INST-106 3.0 1 KC-130 A

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce three-engine non-precision approaches, missed approaches and go-arounds. Practice aborts and engine out landings. Flight will be conducted in daylight VFR conditions.

Performance Standard. Per the NFM and IFM.

INST-107 3.0 R 1 KC-130 A

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce three-engine circling approach and take-off continued after engine failure. Demonstrate two-engine and no-flap approaches and landings. Flight will be conducted in daylight VFR conditions. Refreshers should complete this flight concurrently with INST-106. Refreshers do not have the day VMC restriction.

Performance Standard. Per the NFM and IFM.

INST-108 3.0 1 KC-130 A (N)

Goal. Train the pilot in normal procedures, instrument flight procedures, system malfunctions, and emergency procedures.

Requirement. Introduce partial panel/no-gyro approach. Practice all previously introduced procedures.

Performance Standard. Per NFM and IFM.

INST-109 3.0 R E 1 KC-130 A (N)

Goal. Fam/Inst stage progress review.

Requirement. Review NATOPS normal, emergency, and instrument flight procedures. Pilot shall perform all maneuvers required for a standard instrument rating. Refreshers should complete this flight concurrently with INST-108.

Performance Standard. Per the NFM, the IFM, and OPNAVINST 3710.7\_.

## 2. Air Refueling

a. Purpose. Familiarize pilots with basic air refueling procedures.

b. Ground Training

(1) Air Refueling Procedures Lecture.

(2) Introduction to Air Refueling.

- (3) Inflight Refueling System.
- (4) Air Refueling Procedures.
- (5) Voice Procedures.
- (6) Tactical Briefing Guide.

c. Simulator Training (1 Period, 4.0 Hours)

SAR-016                      4.0                      OFT/WSTS

Goal. Train the pilot in fixed-wing and rotary-wing air refueling procedures.

Requirement. Introduce radio procedures, tanker/receiver management, rotary-wing rendezvous procedures and emergency procedures related to AR. Two pilots, 2 hours in each seat per OFT flight.

Performance Standard. Per the NFM, KC-130 TACMAN and the Air Refueling Manual.

d. Flight Training (4 Flights. 12.0 Hours)

AR-110                      3.0                      1 KC-130 A

Goal. Train the pilot in fixed-wing air refueling procedures.

Requirement. Introduce radio procedures, tanker/receiver management, and emergency procedures related to AR.

Performance Standard. Per the NFM, KC-130 TACMAN and the Air Refueling Manual.

AR-111                      3.0                      1 KC-130 A (N)

Goal. Train the pilot in fixed-wing air refueling procedures.

Requirement. Practice radio procedures, tanker/receiver management, and emergency procedures related to AR.

Performance Standard. Per the NFM, KC-130 TACMAN and the Air Refueling Manual.

AR-112                      3.0                      1 KC-130 A

Goal. Train the pilot in rotary-wing AR procedures.

Requirement. Introduce rendezvous procedures, rotary-wing refueling procedures, and emergency procedures related to rotary-wing air refueling. Flight will be conducted in day VMC conditions. Two (2) rendezvous are required for completion.

Performance Standard. Per the NFM, KC-130 TACMAN and the AR Manual.

AR-113X                    3.0                    E 1 KC-130 A (N)

Goal. AR stage progress review.

Requirement. Sortie may be fixed-wing or rotary-wing air refueling.

Performance Standard. Per the NFM, KC-130 TACMAN and the Air Refueling Manual.

### 3. Low Level Navigation

a. Purpose. Provide the pilot with skills in low level navigation and air delivery.

#### b. Ground Training

- (1) Military Interpretation of Terrain.
- (2) Chart Preparation.
- (3) Low Level Flight Planning.
- (4) Low Level Procedures and Navigation Techniques.
- (5) Basic Cargo Air Delivery Procedures.
- (6) Basic Troop Air Delivery Procedures.

#### c. Simulator Training (2 Periods 4.0 Hours)

SLLNAV-017                    2.0                    OFT/WST S

Goal. Train the pilot in low level navigation procedures.

Requirement. Pilot will plan and navigate two low level routes of at least five checkpoints. Minimum altitude per T&R, Vol 1 minimums. Two pilots, 2 hours in each seat per flight.

Performance Standard. Per the NFM and KC-130 TACMAN.

SLLNAV-018                    2.0                    OFT/WST S

Goal. Train the pilot in low level navigation to an air delivery.

Requirement. Pilot will plan and navigate two low level routes of at least five checkpoints. Minimum altitude per T&R, Vol 1 minimums. Perform AD procedures on each LL. Two pilots, 2 hours in each seat per flight.

Performance Standard. Per the NFM and KC-130 TACMAN.

## d. Flight Training (3 Flights. 6.0 Hours)

LLNAV-120 2.0 1 KC-130 A

Goal. Train the pilot in low level navigation procedures.

Requirement. Pilot will plan and navigate a low level route of at least six checkpoints. Minimum altitude per T&R, Vol 1 minimums.

Performance Standard. Per the NFM and KC-130 TACMAN. Arrive at the target within + 2 minutes.

LLNAV-121 2.0 1 KC-130 A

Goal. Train the pilot in low level navigation to an air delivery.

Requirement. Pilot will plan and navigate a low level route of at least six checkpoints. Minimum altitude per T&R, Vol 1 minimums. Perform AD procedures on LL in conjunction with a modified slowdown.

Performance Standard. Per the NFM and KC-130 TACMAN. Arrive at the target within 90 seconds.

LLNAV-122X 2.0 E 1 KC-130 A

Goal. Low level navigation stage progress review.

Requirement. Pilot will plan and navigate a low level route of at least six checkpoints. Minimum altitude per T&R, Vol 1 minimums. Perform AD procedures on LL in conjunction with a modified slowdown.

Performance Standard. Per the NFM and KC-130 TACMAN. Arrive at target + 60 seconds.

## 4. Formation

a. Purpose. Familiarize pilots with basic section formation procedures.

b. Ground Training. Formation Techniques and Procedures.

c. Flight Training (4 Flights. 8.0 Hours)

FORM-130 2.0 2 KC-130 A

Goal. Train the pilot in section formation procedures.

Requirement. Introduce ground formation procedures, takeoff, climb, and a minimum of four join-ups. Introduce parade, trail, and free cruise positions. Introduce VFR section recovery.

Performance Standard. Per the NFM.

FORM-131 2.0 2 KC-130 A

Goal. Train the pilot in section formation procedures.

Requirement. Introduce Low level formation position. Practice ground formation procedures, takeoff, climb, and a minimum of four join-ups. Practice parade, trail, and free cruise positions. Practice VFR section recovery.

Performance Standard. Per the NFM and KC-130 Tactical Manual.

FORM-132 2.0 2 KC-130 A

Goal. Train the pilot in section formation procedures.

Requirement. Introduce IFR weather penetrations procedures. Practice a minimum of four join-ups. Review parade, trail positions and Low Level formation position.

Performance Standard. Per the NFM.

FORM-133X 2.0 E 2 KC-130 A

Goal. Formation stage progress review.

Requirement. Review formation procedures and techniques.

Performance Standard. Per the NFM.

## 5. Air Delivery

- a. Purpose. Familiarize the pilot with basic skills in Air Delivery.
- b. Ground Training
  - (1) KC-130 TACMAN chapter and appendix.
  - (2) MAWTS-1 Air Delivery Academics Courseware.
  - (3) NATOPS Flight Manual.
- c. External Support
  - (1) Air Delivery Platoon.
  - (2) USAF Combat Control Team.
  - (3) USMC MMT.
- d. Flight Training (1 Flight. 2.0 Hours)



AD-140                      2.0                      1 KC-130    A

Goal. Familiarize the pilot with cargo or personnel Air Delivery procedures.

Requirements. Introduce the pilot to the Air Delivery Mission. Low level route may be utilized as the ingress/egress route. Emphasis shall be on airdrop checklist execution and crew coordination. A minimum of 2 runs from a designated IP to the DZ will be performed. An actual drop of equipment or personnel is required. Equipment may be CDS or modular platform configured.

Performance Standard.

6. Post Maintenance Check Flight (PMCF)

- a. Purpose. Familiarize the pilot with PMCF procedures.
- b. General. Flight will be conducted in OFT/WST.
- c. Simulator (1 Period, 2.0 Hours)

SPMCF 019                      2.0                      E    OFT/WST    S

Goal. Train the pilot in functional checkflight procedures.

Requirement. Introduce profile A, B, C, and D functional checkflights.

Performance Standard. Per the NFM.

7. Long Range Navigation

- a. Purpose. Familiarize the pilot with over water navigation and ICAG procedures.
- b. Ground Training. ICAO procedures, FLIP AP's, and the foreign clearance guide.
- c. Flight Training (2 Flights. 16.0 Hours)

LRNAV-150                      8.0                      1 KC-130    A    (N)

Goal. Train the pilot in long range overwater and ICAC procedures.

Requirement. Introduce overwater navigation, crew coordination, flight publications, and fuel management. Flight will be conducted in an ICAO environment.

Performance Standard. Per the NFM.

LRNAV-151            8.0                    E   1 KC-130    A    (N)

Goal. Train the pilot in long range over water and ICAO procedures.

Requirement. Review over water navigation, crew coordination, flight publications, and fuel management. Flight will be conducted in an ICAO environment.

Performance Standard. Per the NFM.

#### 8. Temporary Landing Zone (TLZ)

a. Purpose. Familiarize the pilot with Temporary Landing Zone operations.

##### b. Ground Training

(1) KC-130 TACMAN chapter and appendix.

(2) MAWTS-1 Temporary Landing Zone Academics courseware.

(3) NATOPS Flight Manual.

##### c. External Support

(1) USAF Combat Control Team.

(2) USMC MMT.

##### d. Simulator Training (1 Period, 2.0 Hours)

STLZ-020            2.0                    OFT/WST   S

Goal. Familiarize the pilot with procedures associated with short field operations.

Requirements. Replacement pilot will perform maximum effort takeoffs and landings to include touch and go's. Review appropriate NFM performance charts and the Tactical Manual. Use minimum length landing zones (5,000 ft or less).

Performance Standard. Per the NFM and KC-130 TACMAN.

##### e. Flight Training (1 Flight, 1.0 Hour)

TLZ-170            1.0                    1 KC-130    A

Goal. Introduce the pilot to short field operations.

Requirements. Introduce the pilot to Temporary Landing Zone Operations. Review all appropriate NFM performance charts. TPC will introduce touch and go landings and demonstrate a minimum of 1 maximum effort takeoff and landing. Use a hard surface of 5,000 ft or longer (incorporating a displaced threshold) where a 500 ft touchdown zone can be determined. The Replacement Pilot will perform a minimum of 3 touch and go landings.

Performance Standard. Per the NFM and KC-130 TACMAN.

## 9. NATOPS Check

a. Purpose. Conduct a T3P/T2P NATOPS evaluation.

b. General. An annual NATOPS check may be conducted any time after completion of the combat capable FAM/INST stage. Commanders shall not designate replacement pilots as a T3P and assign MOS 7556 until satisfactory completion of the entire combat capable stage. Level C SERE school should also be completed prior to T3P designation. The provisions of the NFM and OPNAVINST 3710.7\_ apply.

c. Flight Training (1 Flight 3.0 Hours)

CK-190 3.0 E 1 KC130 A (N)

Goal. NATOPS evaluation flight.

Requirement. Conduct NATOPS evaluation flight.

v. Per the NFM and OPNAVJNST 3710.7

642. COMBAT READY TRAINING

## 1. Familiarization/Instruments

a. Purpose. Train the pilot in left seat flight procedures and crew coordination.

b. Simulator Training (1 Period 3.0 Hours)

SFAM-200 3.0 OFT/WST S

Goal. Train the pilot in left seat normal, emergency, and instrument procedures.

Requirement. Introduce left seat normal, emergency, and instrument procedures under day and night conditions.

Performance Standard. Per the NFM.

c. Flight Training (2 Flights. 6.0 Hours)

FAM-200 3.0 R E 1 KC-130 A

Goal. Train the pilot in left seat normal, emergency, and instrument procedures.

Requirement. Instructor will introduce left seat normal, emergency, and instrument procedures.

Performance Standard. Per the NFM.

FAM-201 3.0 R E 1 KC-130 A N

Goal. Train the pilot in left seat normal, emergency, and instrument procedures under night conditions.

Requirement. Instructor will introduce left seat normal, emergency, and instrument procedures under night conditions.

Performance Standard. Per the NFM.

## 2. Air Refueling

a. Purpose. Refine pilot air refueling procedures.

b. Ground Training. Review the AR, Tactical Manual and MAWTS-1 Tactical AR Courseware relating to fixed-wing and rotary-wing AR procedures.

c. Flight Training (2 Flights 8.0 Hours)

AR-210                      4.0                      E 1 KC-130    A

Goal. Maintain proficiency in single plane, fixed-wing AR procedures.

Requirement. Review radio procedures, tanker/receiver management, and the emergency procedures related to air refueling. Use of EMOON procedures is optional.

Performance Standard. Per the NFM and the AR Manual.

AR-211                      4.0                      1 KC-130    A    N

Goal. Train the pilot in single plane, fixed-wing, night AR procedures.

Requirement. Review radio procedures, tanker/receiver management, and the emergency procedures related to air refueling. Use of EMOON procedures is optional.

Performance Standard. Per the NFM and the AR Manual.

## 3. Rotary-wing Air Refueling

a. Purpose. Train the pilot in rotary-wing air refueling procedures.

b. Ground Training. Review the AR Manual and Tactical Manual chapters pertaining to rotary-wing AR procedures.

c. Flight Training (2 Flights 8.0 Hours)

AR-212                      4.0                      R E 1 KC-130    A

Goal. Maintain proficiency in rotary-wing AR procedures.

Requirement. Review rendezvous procedures, rotary-wing refueling procedures, and emergency procedures related to rotary-wing air refueling. Flight will be conducted in day VMC conditions. Use of EMCON procedures is optional. Two (2) rendezvous are required for initial qualification.

Performance Standard. Per the NFM and the AR Manual.

AR-213                    4.0                    1 KC-130   A   N

Goal. Train the pilot in night rotary-wing AR procedures.

Requirement. Review rendezvous procedures, rotary-wing refueling procedures, and emergency procedures related to rotary-wing air refueling. Flight will be conducted in night VMC conditions. Use of EMOON procedures is optional. Two (2) rendezvous are required for initial qualification.

Performance Standard. Per the NFM and the AR Manual.

#### 4. Low Level Navigation

a. Purpose. Train the pilot in day/night low level procedures.

b. Ground Training. Review Tactical Manual chapter pertaining to low level navigation, and MAWTS-1 Low Level Navigation Courseware.

c. Simulator Training (2 Periods. 4.0 Hours)

SLLNAV-220            2.0                    OFT/WSTS

Goal. Train the pilot in day LL procedures.

Requirement. Pilot will plan and navigate a low level route of at least six checkpoints at day. Minimum altitude per T&R, Vol 1 minimums.

Performance Standard. Per the NFM and KC-130 TACMAN.

SLLNAV-221            2.0                    OFT/WST   S   N

Goal. Train the pilot in night LL procedures.

Requirement. Pilot will plan and navigate a low level route of at least six checkpoints at night. Minimum altitude per T&R, Vol 1 minimums.

Performance Standard. Per the NFM and KC-130 TACMAN.

d. Flight Training (2 Flights. 8.0 Hours)

LLNAV-220            4.0                    R E 1 KC-130   A

Goal. Practice day LL navigation procedures.

Requirement. Pilot will plan and navigate a Low Level route of at least six checkpoints. Minimum altitude per T&R, Vol 1 minimums.

Performance Standard. Per the NFM and the KC-130 Tactical Manual. Arrive at target within + 30 seconds.

LLNAV-221 4.0 E 1 KC-130 A N

Goal. Train the pilot in night LL procedures.

Requirement. Pilot will plan and navigate a Low Level route of at least six checkpoints at night. Minimum altitude per T&R, Vol 1 minimums. Use of NVG's in the hand held mode by the non-flying pilot is encouraged.

Prerequisite. LLNAV-220.

Performance Standard. Per the NFM and the KC-130 Tactical Manual. Arrive at target within + 30 seconds.

## 5. Formation

a. Purpose. Refine pilot formation procedures.

b. Ground Training. Day and night formation procedures and techniques.

c. Simulator Training (1 Period, 3.0 Hours)

SFORM-230 3.0 WSTS

Goal. Maintain pilot proficiency in section formation procedures.

Requirement. Review day/night section formation procedures.

Performance Standard. Per the NFM.

d. Flight Training (3 Flights 10.0 Hours)

FORM-230 4.0 2 KC-130 A

Goal. Maintain pilot proficiency in day section formation procedures.

Requirement. Left seat required for initial qualification. Review day section formation procedures. Perform break up and rendezvous and 1 lead change. Introduce trail and echelon night formation positions.

Performance Standard. Per the NFM.

FORM-231 3.0 2 KC-130 A N

Goal. Train the pilot in night section formation procedures.

Requirement. Introduce night section formation procedures. Perform four break up and rendezvous and lead changes. Practice trail and echelon night formation positions.

Prerequisite. FORM-230.

Performance Standard. Per the NFM.

FORM-232                    3.0                    E   2 KC-130   A   N

Goal. Train the pilot in night section formation procedures.

Requirement. Left seat required for initial qualification. Practice night section formation procedures.

Prerequisite. FCRM-231.

Performance Standard. Per the NFM.

6. Division Formation

a. Purpose. Train the pilot in division formation procedures.

b. Ground Training. Division formation procedures.

c. Simulator Training (1 Period. 3.0 Hours)

SFORM-233                    3.0                    WST   S

Goal. Introduce the pilot to day division formation procedures.

Requirement. Introduce division formation procedures.

Performance Standard. Per the NFM.

d. Flight Training (2 Flights. 8.0 Hours)

FORM-233                    4.0                    3 or more KC-130   A

Goal. Introduce the pilot to day division formation procedures.

Requirement. Introduce division formation procedures, to include lead changes, breakup and rendezvous, and division formations.

Prerequisite. FORM-230.

Performance Standard. Per the NFM and KC-130 TACMAN.

FORM-234                    4.0                    E   3 or more KC-130   A

Goal. Train and evaluate the pilot in day division formation procedures.

Requirement. Practice division formation procedures as introduced in FORM 233.

Prerequisite. FORM-233.

Performance Standard. Per the NFM and KC-130 TACMAN.

## 7. Air Delivery

a. Purpose. Refine pilot air delivery procedures.

b. Ground Training. Review MAWTS-1 AD courseware and KC-130 TACMAN information regarding personnel and cargo delivery procedures.

c. External Support

(1) Air delivery platoon.

(2) Combat control team.

(3) MMT.

d. Simulator Training (1 Period. 3.0 Hours)

SAD-240 3.0 OFT/WST S

Goal. Train the pilot in cargo air delivery procedures.

Requirement. Train the pilot to cargo/troop air delivery mission.

Performance Standard. Per the NFM and KC-130 TACMAN.

e. Flight Training (2 Flights. 6.0 Hours)

AD-240 3.0 E 1 KC-130 A

Goal. Train and evaluate the pilot in cargo air delivery procedures.

Requirement. Review heavy equipment and CDS aerial delivery procedures. If a low level ingress is used, IP inbound should be flown twice. Emphasis should be placed on crew coordination and AD procedures. An actual cargo AD is required for initial qualification.

Performance Standard. Per the NFM and KC-130 TACMAN.

External Support. Air delivery platoon for cargo rigging and DZ control Use of MMT is encouraged.

AD-241 3.0 E 1 KC-130 A

Goal. Train and evaluate the pilot in troop air delivery procedures.

Requirement. Review personnel aerial delivery procedures. If a low level ingress is used, IP inbound should be flown twice. Emphasis should be placed on crew coordination and AD procedures. An actual personnel AD is required for initial qualification.

Performance Standard. Per the NFM and KC-130 TACMAN.

External Support. Air delivery platoon or MMT for DZ set-up and control.



8. Long Range Navigation

- a. Purpose. Train for extended operations in an ICAO environment.
- b. Flight Training (2 Flights 18 Hours)

LRNAV-250                      9.0                      1 KC-130    A    (N)

Goal. Maintain proficiency in all weather overland operations within the capabilities of the aircraft. (ICAO environment optional).

Requirement. Pilot will fly an overland mission. Review ICAO procedures as required.

Performance Standard. Per the NFM.

LRNAV-251                      9.0                      E 1 KC-130    A    (N)

Goal. Maintain proficiency in extended over water operations in ICAO environment.

Requirement. Pilot will fly a extended over water mission. Review ICAO procedures.

Performance Standard. Per the NFM.

## 9. Temporary Landing Zone (TLZ)

- a. Purpose. Train the pilot in short field takeoffs and landings.
- b. Ground Training. Review temporary landing zone operations in KC-130 TACMAN.
- c. External Support
  - (1) MMT.
  - (2) Combat control team.
- d. Simulator Training (1 Period, 3.0 Hours)

STLZ-270                      3.0                      OFT/WSTS

Goal. Train the pilot in short field operations.

Requirement. Introduce maximum effort takeoffs and landings. Review all appropriate NFM performance charts. Use a hard surface runway where a 500 ft touchdown zone can be determined. Conduct a minimum of 1 maximum effort takeoff, 6 touch-and-go's, and 1 full stop landing. Flight will be conducted under day and night conditions.

Performance Standard. Per the NFM and KC-130 TACMAN.

- e. Flight Training (3 Flights 8.0 Hours)

- TLZ-270                    3.0                    E 1 KC-130 A
- Goal. Train the pilot in short field operations.
- Requirement. Introduce maximum effort takeoffs and landings. Review all appropriate NFM performance charts. Use a hard surface landing area. For initial qualification, conduct a minimum of 1 maximum effort takeoff, 4 touch-and-go's, and one full stop landing.
- Prerequisite. FAM-200.
- Performance Standard. Per the NFM and KC-130 TACMAN.
- TLZ-271                    3.0                    R E 1 KC-130 A N
- Goal Train the pilot in night short field operations.
- Requirement. Review maximum effort takeoffs and landings. Review all appropriate NFM performance charts. Use a hard surface landing area. For initial qualification, conduct a minimum of 1 maximum effort takeoff, 4 touch-and-go's, and one full stop landing.
- Prerequisite. FAM-201, TLZ-270.
- Performance Standard. Per the NFM and KC-130 TACMAN.
- TLZ-272                    2.0                    1 KC-130 A (N)
- Goal. Train the pilot in combat offload procedures.
- Requirement. Plan, brief and conduct combat offload.
- Prerequisite. FAM-200.
- Performance Standard. Per NFM and KC-130 TACMAN.
10. Rapid Ground Refueling (RGR)
- a. Purpose. Introduce rapid ground refueling operations.
- b. External Support
- (1) Crash fire rescue (if available)
- (2) Rotary-wing support teams (if desired)
- c. Flight Training (2 Flights. 4.0 Hours)
- RGR-273                    2.0                    1 KC-130 A
- Goal. Train the pilot in RGR procedures.
- Requirement. Plan, brief, and conduct RGR mission involving actual transfer of fuel. EMCCN procedures are optional.
- Performance Standard. Per KC-130 TACMAN.

RGR-274                    2.0                    E 1 KC-130 A N

Goal. Train the pilot in night RGR operations.

Requirement. Plan, brief, and conduct RGR mission involving actual transfer of fuel at night. EMOON procedures are optional. Use of night vision devices is encouraged.

Prerequisite. RGR 273

Performance Standard. Per KC-130 TACMAN.

#### 11. Transport Second Pilot (T2P) Check

a. Purpose. Qualify the T3P as a T2P.

b. General. Upon completion of the initial examination and evaluation, this flight will be used as the annual NATOPS evaluation. The written tactical examination will not be required for subsequent evaluations.

c. Prerequisites. Completion of combat ready training, currency/flight time per NFM, Chapter 5, and the specific requirements for T2P designation per OPNAVINST 3710.7\_, Chapter 12.

d. Ground Training. Open book tactics examination.

e. Flight Training (1 Flight. 3.0 Hours)

CK-290                    3.0                    R E 1 KC-130 A (N)

Goal. T2P evaluation flight.

Requirement. Conduct NATOPS check.

Performance Standard. Per the NFM and OPNAVINST 3710.7

#### 643. COMBAT OUALIFICATION TRAINING

##### 1. Low Altitude Air Refueling

a. Purpose. Train the pilot for refueling in a low altitude environment.

(1) MAWTS-1 Tactical Aerial Refueling Courseware.

(2) KC-130 TACMAN Low Level and EMCON Procedures.

(3) NATOPS AR Manual.

b. Ground Training. Low level and EMCON refueling procedures.

c. Flight Training (2 Flights. 8.0 Hours)

AR-310 4.0 1-2 KC-130 A

Goal. Train the pilot in low altitude AR procedures.

Requirement. Plan, brief, and fly an AR mission below 5,000 ft AGL. Minimum altitude per T&R, Vol 1. EMCON procedures are encouraged. If flown in conjunction with a low level route, plan for an ARCP, AROT and ENDAR.

Prerequisite. AR-210.

Performance Standard. Per NFM, Air Refueling Manual, and KC-130 TACMAN.

AR-311 4.0 E 1-2 KC-130 A N

Goal. Train the pilot in low altitude night AR procedures.

Requirement. Plan, brief, and fly a night AR mission below 5,000 ft AGL. Minimum altitude per T&R, Vol 1. EMCQN procedures are encouraged. If flown in conjunction with a low level route, plan for an ARCP, ARCT and ENDAR.

Prerequisite. AR-211.

Performance Standard. Per NFM, Air Refueling Manual, and KC-130 TACMAN.

## 2. Multi-plane Air Refueling

a. Purpose. Train the pilot for multi-plane air refueling procedures used in ALTRAV and long-range missions and to train the pilot for future Refueling Area Commander and lead designations.

b. Ground Training. Multi-plane Air Refueling.

c. Prerequisite. If flight is to consist of 3 or more KC-130's, ensure FORM-234 is completed prior to the event.

d. Flight Training (2 Flight. 12.0 Hours)

AR-312 6.0 R E 2 or more KC-130 A (N)

Goal. Train the pilot in multi-plane AR procedures.

Requirement. Conduct multi-plane AR.

Prerequisite. FORM-230/234/(231)

Performance Standard. Per NFM, Air Refueling Manual, and KC-130 TACMAN.

AR-333 6.0 E 3 or more KC-130 A N

Goal. Train the pilot in night division AR procedures.

Requirement. Conduct night division AR.

Prerequisite. FORM-332, AR-312.

Performance Standard. Per NFM, Air Refueling Manual, and KC-130 TACMAN.

### 3. Low Level Formation

a. Purpose. Introduce the pilot to low level formation procedures.

b. Ground Training. Review low level form procedures in KC-130 Tactical Manual.

c. Simulator Training (1 Period. 3.0 Hours)

SLLFORM-330      3.0      WST S

Goal. Train the pilot in formation LL procedures.

Requirement. Pilot will fly as wingman on a low level route of at least six checkpoints under day and night conditions. Minimum altitude per T&R, Vol 1 minimums.

Performance Standard. Per the NFM and KC-130 TACMAN.

d. Flight Training (2 Flights. 7.0 Hours)

LLFORM-330      4.0      2 KC-130 A

Goal. Train the pilot in formation LL procedures.

Requirement. Pilot will fly as wingman on a low level route of at least six checkpoints. Minimum altitude per T&R, Vol 1.

Performance Standard. Per the NFM and KC-130 TACMAN.

Prerequisite. LLNAV 220, FORM 230.

LLFORM-331      3.0      E 2 KC-130 A N

Goal. Train the pilot in night formation LL procedures.

Requirement. Pilot will fly as wingman on a low level route of at least six checkpoints at night. Minimum altitude per T&R, Vol 1.

Performance Standard. Per the NFM and KC-130 TACMAN.

Prerequisite. LLNAV 221, FORM 232.

### 4. Night Division Formation

a. Purpose. Train the pilot in night division formation procedures.

b. Ground Training. Division formation procedures.

c. Flight Training (1 Flight. 4.0 Hours)

FORM-332                      4.0                      E    3 or more KC-130    A    N

Goal. Train the pilot in night division formation procedures.

Requirement. Practice night division formation procedures.

Prerequisite. FORM-232/234.

Performance Standard. Per the NFM and KC-130 TACMAN.

## 5. Air Delivery

a. Purpose. Refine pilot air delivery (AD) procedures.

### b. Ground Training

(1) Cargo Air Delivery Procedures and Techniques.

(2) Troop Air Delivery Procedures and Techniques.

### c. External Support

(1) Air delivery platoon.

(2) Combat control team.

(3) MMT.

d. Simulator Training (1 Period. 3.0 Hours)

SAD-340                      3.0                      WST    S

Goal. Train the pilot in tactical AD procedures.

Requirement. Plan and execute a AD mission using tactical procedures. Drop may be either CDS, modular platforms, paratroops or combination. Low level routes should be used as ingress/egress. If a multi-plane mission, use random target approaches. Use of escort planning is optional.

Performance Standard. Per NFM, OPNAVINST 3710.7 and KC-130 TACMAN.

### e. Flight Training (4 Flights. 13.0 Hours)

AD-340                      3.0                      R    E    1-2 KC-130    A

Goal. Train the pilot in tactical AD procedures.

Requirement. Plan and execute a AD mission using tactical procedures. Low level routes should be used as ingress/egress. If a multi-plane mission, use random target approaches. Use of escort planning is optional.

Prerequisite. AD-240 or 241.

Performance Standard. Per NFM, OPNAVINST 3710.7 and KC-130 TACMAN.

AD-341 3.0 1-2 KC-130 A N

Goal. Train the pilot in night AD procedures.

Requirement. Plan and execute a night AD mission utilizing the appropriate all weather tactical systems required for navigation to the target. Use of low level ingress/egress is recommended. If a multi-plane mission, use random approaches. Use of escort planning is optional. Recommend 3 passes from the IP to the target.

Prerequisite. AD-340.

Performance Standard. Per NFM, OPNAVINST 3710.7 and KC-130 TACMAN.

AD-342 4.0 E KC-130 A (N)

Goal. Train the pilot in high altitude AD procedures.

Requirement. Plan and execute a high altitude para operation during day or night. Review applicable physiology requirements for high altitude para operations. Mission must be conducted above 10,000 ft MSL.

Prerequisite. AD-241.

Performance Standard. Per NFM, OPNAVINST 3710.7 and KC-130 TACMAN.

AD-343 3.0 1 KC-130 A (N)

Goal. Train the pilot in combination AD procedures.

Requirement. Introduce the pilot to combination AD mission. If a multi-plane mission, use random approaches. Use of escort planning is optional. Minimum of 3 passes from the IP to the target.

Prerequisite. AD 240 or 241.

Performance Standard. Per the NFM and KC-130 TACMAN.

External Support. Air delivery platoon for cargo rigging and DZ control. Use of MMT is encouraged.

## 6. Air Delivery/Area Illumination

a. Purpose. Train the pilot in area illumination procedures.

b. Ground Training. Flare procedures.

c. External Support

(1) MMT.

(2) PPN-19 RABFAC beacon.

(3) Combat control team.

d. Flight Training (1 Flight, 4.0 Hours)

AD-344                      4.0                      1 KC-130    A    N

Goal. Train in area illumination procedures.Requirement. Provide illumination using patterns and procedures per the TACMAN. Emphasis will be on mission planning and area illumination procedures.Performance Standard. Per the NFM, KC-130 TACMAN, and applicable Naval weapons publications.External Support

- (1) MMT.
- (2) Combat~Control Team.
- (3) PPN-19 RAEFAC Beacon.

Ordnance. LUU-2 flares as required.7. Aircraft Survivability Equipment (ASE)a. Purpose. Train the pilot in skills required to plan for and operate the KC-130 ASE suite during normal operational.b. General. Aircraft must have a fully operational ASE suite.c. Ground Training. Prior to this flight phase the pilot shall receive the MAWTS-1 ASP course on:

- (1) Basic Radar Principles (U)
- (2) AN/ALE-39 Chaff & Flare Dispenser (U)
- (3) AN/ALE-39 Programming (S).
- (4) AN/AAR-47 Missile Warning System (S).
- (5) AN/ALQ-157 Infrared Jammer (S).
- (6) AN/APR-39 Radar Warning Receiver (S).
- (7) IR and Radar SAM.
- (8) Anti-Aircraft Artillery Systems.

d. Simulator Training (1 Period, 3.0 Hours)



SASE 360                      3.0                      WST    S

Goal. Introduce the basic in-flight operation of the ASE system with emphasis on setup of the system for automatic defense.

Requirement. Plan and setup the ASE suite to defeat an unforeseen threat in any operational mission. Demonstrate the basic understanding of and ability to operate the system, specifically the ALE-39 programmer, and ALQ-157 IR jammer for automatic & continuous defense.

Performance Standard. MAWTS-1 ASP

e. Flight Training (1 Flight. 2.0 Hours)

ASE 360                      2.0                      1 KC-130 A/S

Goal. Introduce the basic in-flight operation of the ASE system with emphasis on setup of the system for automatic defense.

Requirement. Plan and setup the ASE suite to defeat an unforeseen threat in any operational mission. Demonstrate the basic understanding of and ability to operate the system, specifically the ALE-39 programmer and ALQ-157 IR jammer for automatic and continuous defense.

Performance Standard. MAWTS-1 ASP

8. Temporary Landing Zone (TLZ)

a. Purpose. Train the pilot in unimproved/marginal airfield operations.

b. Ground Training. Review temporary landing zone operations in KC-130 TACMAN.

c. External Support

(1) MMT.

(2) Combat control team.

(3) MWSS support (if LZ conditions dictate)

d. Simulator Training (1 Period 3.0 Hours)

STLZ-370                      3.0                      OFT/WST    S

Goal. Train the pilot in unimproved field operations.

Requirement. Introduce maximum effort takeoffs and landings at an unimproved airfield. Minimum four touch-and-go's and one full-stop landing. Emphasize ground operations at an unimproved airfield. Conduct under day and night conditions.

Performance Standard. Per the NFM and KC-130 TACMAN.

e. Flight Training (2 Flights. 6.0 Hours)

TLZ-370                      3.0                      E   1 KC-130   A

Goal. Train the pilot in unimproved field operations.Requirement. Introduce maximum effort takeoffs and landings at an unimproved airfield. Minimum four touch-and-goes, one maximum effort full-stop landing, and one maximum effort take-off for initial qualification. Emphasize ground operations at an unimproved airfield.Prerequisite. TLZ-370.Performance Standard. Per the NFM and KC-130 TACMAN.

TLZ-371                      3.0                      E   1 KC-130   A   N

Goal. Train the pilot in night unimproved field operations.Requirement. Review maximum effort takeoffs and landings at an unimproved airfield. Minimum four touch-and-goes, one maximum effort full-stop landing and one maximum effort take-off for initial qualification. Emphasize ground operations at an unimproved airfield. Flight will be conducted at night. Use of initial terminal guidance (ITG) is encouraged.Prerequisite. TLZ-371.Performance Standard. Per the NFM and KC-130 TACMAN.9. Transport Plane Commandera. Purpose. Train the T2P for upgrade to TPC.b. General. TPC-390 through 392 will be flown to screen T2P's for upgrade; each flight should be flown with a separate evaluator. Upon successful completion of TPC-392, the T2P will complete STPC-390 through 398, TPC-393, and TPC-394. If a pilot attends USAF Aircraft Commander Qualification Course (ACQ)1 commanders may waive STPC-390-398Requirement. Upon successful completion of TPC-394, the TPC should be designated a single plane Refueling Area Commander.c. Prerequisites. Completion of combat qualification training (except flight leadership designations), currency/flight time per NFM, and the specific requirements for TPC designation per OPNAVINST 3710.7d. Flight Training (3 Flights. 9.0 Hours)

TPC-390                      3.0                      E   1 KC-130   A

Goal. Screen for TPC designation.Requirement. Review NATOPS normal, emergency, and instrument procedures.Prerequisite. See paragraph c. above.Performance Standard. Per the NFM.

TPC-391	3.0	E 1 KC-130 A (N)
<u>Goal.</u> Screen for TPC designation.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Prerequisite.</u> TPC-390.		
<u>Performance Standard.</u> Per the NFM.		
TPC-392	3.0	E 1 KC-130 A
<u>Goal.</u> Screen for TPC designation.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Prerequisite.</u> TPC-391.		
<u>Performance Standard.</u> Per the NFM.		
e. <u>Simulator Training (9 Periods. 27.0 Hours)</u>		
STPC-390	3.0	E OFT/WST S
<u>Goal.</u> Prepare T2P for upgrade to TPC.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Performance Standard.</u> Per the NFM.		
STPC-391	3.0	E OFT/WST S
<u>Goal.</u> Prepare T2P for upgrade to TPC.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Performance Standard.</u> Per the NFM.		
STPC-392	3.0	E OFT/WST S
<u>Goal.</u> Prepare T2P for upgrade to TPC.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Performance Standard.</u> Per the NFM.		
STPC-393	3.0	E OFT/WST S
<u>Goal.</u> Prepare T2P for upgrade to TPC.		
<u>Requirement.</u> Review NATOPS normal, emergency, and instrument procedures.		
<u>Performance Standard.</u> Per the NFM.		

- STPC-394            3.0                    E    OFT/WST   S
- Goal.    Prepare T2P for upgrade to TPC.
- Requirement.   Review NATOPS normal, emergency, and instrument procedures.
- Performance Standard.   Per the NFM.
- STPC-395            3.0                    E    OFT/WST   S
- Goal.    Prepare T2P for upgrade to TPC.
- Requirement.   Review NATOPS normal, emergency, and instrument procedures.
- Performance Standard.   Per the NFM.
- STPC-396            3.0                    E    OFT/WST   S
- Goal.    Prepare T2P for upgrade to TPC.
- Requirement.   Review NATOPS normal, emergency, and instrument procedures.
- Performance Standard.   Per the NFM.
- STPC-397            3.0                    E    OFT/WST   S
- Goal.    Prepare T2P for upgrade to TPC.
- Requirement.   Review NATOPS normal, emergency, and instrument procedures.
- Performance Standard.   Per the NFM.
- STPC-398            3.0                    E    OFT/WST   S
- Goal.    Simulator upgrade progress review.
- Requirement.   Review NATOPS normal, emergency, and instrument procedures.
- Performance Standard.   Per the NFM.

#### 10. Transport Plane Commander Evaluation

- a. Purpose.    Qualify the T2P as a TPC.
- b. General.    Prerequisites are completion of TPC 390-392 and STPC 390-398. Upon successful completion of TPC-394, the TPC should be designated a single plane Refueling Area Commander.
- c. Flight Training    (2 Flights. 33 Hours)

- TPC-393            30.0            E   1 KC-130   A   (N)
- Goal.   TPC NATOPS Route Check evaluation.
- Requirement.   T2P pilot will demonstrate the ability to manage all aspects of an extended mission.   Evaluation should involve one or more RON's and in an ICAO environment.
- Prerequisite.   TPC-392, STPC-398.
- Performance Standard.   Per the NFM and OPNAVINST 3710.7
- TPC-394            3.0            E   1 KC-130   A   (N)
- Goal.   TPC NATOPS evaluation.
- Requirement.   Complete NATOPS evaluation.
- Prerequisite.   TPC-392, STPC-398.
- Performance Standard.   Per the NFM.
12.   Formation Leader Evaluation
- a.   Purpose.   Qualify the pilot as a flight lead.
- b.   Ground Training.   Flight lead procedures and responsibilities.
- c.   Flight Training   (2 Flights 8.0 Hours)
- FORM-395           4.0            E   2 KC-130   A
- Goal.   Qualify a pilot as a section leader.
- Requirement.   The pilot is to brief a section formation evolution from takeoff to landing.   Discuss flight leadership responsibilities as outlined in OPNAVINST 3710.7 .   Flight shall be evaluated by a qualified flight lead.
- Prerequisite.   TPC designation.
- Performance Standard.   Per the NFM and OPNAVINST 3710.7
- FORM-396           4.0            E   3 KC-130   A
- Goal.   Qualify a pilot as a division lead.
- Requirement.   The pilot is to brief a division formation evolution from takeoff to landing.   Discuss flight leadership responsibilities as outlined in OPNAVINST 3710.7 .   Flight shall be evaluated by a qualified division lead.
- Prerequisite.   Section Leader Designation.
- Performance Standard.   Per the NFM and OPNAVINST 3710.7

## 644. FULL-COMBAT QUALIFICATION TRAINING

## 1. Low Altitude Tactics (LAT)

a. Purpose. Train aircrews in LAT and develop proficiency in flying the KC-130 at low altitudes.

## b. External Support

(1) Threat Emitters.

(2) Smokey SAMs.

c. General. LAT rules of conduct are contained in T&R Manual, Volume 1.

d. Ground Training. Per the MAWTS-1 Course Catalog. Review MAWTS-1 ASE courseware and KC-130 TACMAN.

e. Simulator Training (2 Periods 6.0 Hours)

SLAT-420 3.0 OFT/WST S

Goal. Train the pilot in LAT procedures.

Requirement. Introduce flying at comfort level, terrain masking, ridgeline crossing, and lookout doctrine. Fly in left and right seat.

Performance Standard. Per the KC-130 TACMAN navigate the route arriving over each checkpoint while maintaining situational awareness.

SLAT-421 3.0 OFT/WST S

Goal. Train the pilot in formation LAT procedures.

Requirement. Fly as wingman. Practice flying at comfort level, terrain masking, ridgeline crossing, and lookout doctrine. Fly in left and right seat.

Performance Standard. Per the KC-130 TACMAN navigate the route arriving over each checkpoint while maintaining situational awareness.

f. Flight Training (3 Flights. 9.0 Hours)

LAT-420 3.0 E 1 KC-130 A

Goal. Train the pilot in LAT procedures.

Requirement. Introduce flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, break turns, hard turns, climb to cope and descent to MAC. Minimum altitude per T&R, Vol 1. Route flown should be one that affords the opportunity to perform LAT maneuvering, e.g., ridges, valleys, open areas and easily identifiable terrain features. Fly in right seat.

Prerequisite. LLNAV-220.

Performance Standard. Per the KC-130 TACMAN navigate the route arriving over each checkpoint while maintaining situational awareness.

LAT-421                      3.0                      E 1 KC-130    A

Goal.    Train the pilot in LAT procedures.

Requirement.    Review flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, break turns, hard turns, climb to cope and descent to MAC. Minimum altitude per T&R, Vol 1. Route flown should be one that affords the opportunity to perform LAT maneuvering, e.g., ridges, valleys, open areas and easily identifiable terrain features. Use of functioning ASE gear is encouraged. Fly in left seat.

Prerequisite.    LAT-420. (If ASE gear is used, ASE-360)

Performance Standard. Per the KC-130 TACMAN navigate the route arriving over each checkpoint while maintaining situational awareness.

LAT-422                      3.0                      E 2 KC-130    A

Goal.    Qualify the pilot in LAT procedures.

Requirement.    Fly as wingman. Introduce section LAT procedures. Practice flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, break turns, hard turns, climb to cope and descent to MAC. Minimum Altitude per T&R, Vol 1. Route flown should be one that affords the opportunity to perform LAT maneuvering, e.g., ridges, valleys, open areas and easily identifiable terrain features. Use of functioning ASE gear is encouraged.

Prerequisite.    LAT-421, FORM-330. (If ASE gear is used, ASE-360)

Performance Standard. Per the KC-130 TACMAN navigate the route arriving over each checkpoint while maintaining situational awareness.

## 2. Aircraft Survivability Equipment (ASE)

a. Purpose. Train the pilot in skills required to plan for and operate the KC-130 ASE suite in a tactical scenario in a low to medium threat environment.

### b. General

- (1) Aircraft must have fully operational ASE suite.
- (2) Appropriate Chaff and Decoy Flares must be loaded prior to flight.
- (3) Threat emitters must be available.

c. Ground Training. Prior to this flight phase the pilot shall receive the MAWTS-1 ASP courses On:

- (1) Radio Electronic Combat.
- (2) MAGTF Ground Based Air Defense System (GBADS).
- (3) KC-130 Specific Threat Countertactics.

d. Simulator Training (1 Period, 3.0 Hours)

SASE-460            3.0            WST   S

Goal. Refine the utilization of the ASE suite to include use in a low to medium threat tactical environment.

Requirement. Demonstrate the ability to assess a threat scenario and plan for the proper setup and utilization of the complete ASE suite. Correctly identify and correlate threat symbology display on the APR-39. Demonstrate the proper response to displayed threats including use of expendable and recommended maneuvers.

Performance Standard. MAWTS-1 ASP.

e. Flight Training (2 Flight. 6.0 Hours)

ASE-460            3.0            1 KC-130   A

Goal. Refine the utilization of the ASE suite to include a low to medium threat tactical environment.

Requirement. Demonstrate the ability to assess a threat scenario and plan for the proper setup and utilization of the complete ASE suite. Correctly identify and correlate threat symbology display on the APR-39. Demonstrate the proper response to displayed threats including use of expendable and recommended maneuvers.

Prerequisite. ASE-360.

Performance Standard. MAWTS-1 ASP.

External Syllabus Requirement. Threat emitters.

Ordinance. Chaff/Flares.

ASE-461            3.0            E   1 KC-130   A   (N)

Goal. Teach effective use of expendables against a simulated threat scenario provided by an EW range.

Requirement. Correctly plan for utilization and setup of ASE suite against specific threat provided by EW range. Demonstrate the capability to use ASE to degrade/defeat threat.

Prerequisite. ASE-460, LAT-422.

Performance Standard. MAWTS-1 ASP.



External Syllabus Requirement. EW Range or threat emitters.

Ordnance. Chaff/Flares.

### 3. Defensive Tactics (DEFTAC)

a. Purpose. Train the pilot in defensive tactics.

b. General. Prerequisites are qualification in Low Altitude Tactics. Initial qualification flight will be flown with a DEFTACI. Academic prerequisites Per MAWTS-1 KC-130 Defensive Tactics Course.

c. Flight Training (3 Flights. 6.0 Hours)

DEFTAC-462      2.0      1 KC-130. 1 Adversary    A

Goal. Train in aircraft defensive maneuvering.

Requirement. Introduce defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, and lookout doctrine.

Prerequisite. LAT-422.

Performance Standard. Per the NFM and KC-130 TACMAN.

DEFTAC-463      2.0      E 1 KC-130. 1 Adversary    A

Goal. Train in aircraft defensive maneuvering.

Requirement. Practice defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, and lookout doctrine.

Prerequisite. DEFTAC-462.

Performance Standard. Per the NFM and KC-130 TACMAN.

DEFTAC-464      2.0      E 1 KC-130. 2 Adversaries    A

Goal. Qualify in aircraft defensive maneuvering.

Requirement. Practice defensive maneuvers with two adversary aircraft. Emphasis on lookout doctrine and negating tracking solutions.

Prerequisite. DEFTAC-463.

Performance Standard. Per the NFM and KC-130 TACMAN.

### 4. Refueling Area Commander (RAC)

a. Purpose. Qualify the TPC as a Refueling Area Commander for long range refueling operations.

b. General. Prerequisites include AR-333 and FORM-396.

c. Ground Training. CARF indoctrination.

d. Flight Training (1 Flights 8.0 Hours)

RAC-493                      8.0                      E    2 or more KC-130    A    (N)

Goal.    Qualify a TPC as a Refueling Area Commander.

Requirement.    Brief, conduct, and control a multi-tanker extended AR mission. Discuss responsibilities of Refueling Area Commander, lead, Rendezvous Controller, Movement Control Officer, Tanker Force Commander, and Receiver Force Commander. Emphasis on ALTRV execution. Flight shall be evaluated by a qualified Refueling Area Commander.

Prerequisite.    AR-333, FORM-396.

Performance Standard.    Per the NFM and the Air Refueling Manual.

#### 650. IUT FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

##### 1. Simulator (OFTIWST) Instructor

a. Purpose.    Qualify the pilot as an OFT/WST instructor.

b. Simulator Training (1 Periods 2.0 Hours)

SFAM-500                      2.0                      E    OFT/WST    S

Goal.    Introduce the IUT to the proper operation and use of the simulator.

Requirement.    Demonstrate how to set initial conditions and modify parameters to influence instrument and systems learning objectives.

Performance Standard.    Per the NFM and the Simulator Operator's Manual.

##### 2. Instructor Under Training

a. Purpose.    Qualify the pilot as an instructor pilot.

b. General.    Standardization will be emphasized throughout IUT training. IUT must have a minimum of 200 hours as a TPC.

c. Flight Training (13 Flights. 28.0 Hours)

FAM-500                      2.0                      E    1 KC-130    A

Goal.    Train TUT for FAM/INST stage training.

Requirement.    Instructor under training will practice all FAM maneuvers in combat capable syllabus. Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat. Standardize maneuver instruction.

Performance Standard.    Per the NFM.

INST-501            2.0                    E   1 KC-130   A

Goal.   Train IUT for FAM/INST stage training.

Requirement.   Instructor under training will practice all INST maneuvers in combat capable syllabus. Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat. Standardize maneuver instruction.

Performance Standard.   Per the NFM.

INST-502            3.0                    E   1 KC-130   A

Goal.   Qualify IUT for FAM/INST stage training.

Requirement.   Instructor under training in left seat conducts combat capable FAM/INST training with student in right seat. Flight supervised by qualified instructor.

Performance Standard.   Per the NFM.

AR-510             3.0                    E   1 KC-130   A

Goal.   Train IUT for AR stage training.

Requirement.   Instructor under training will practice all AR procedures in combat capable syllabus. Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat. Standardize maneuver instruction.

Performance Standard.   Per the NFM and the Air Refueling Manual.

AR-511             3.0                    E   1 KC-130   A

Goal.   Qualify IUT for AR stage training.

Requirement.   Instructor under training in left seat conducts Combat Capable AR training with student in right seat. Flight supervised by qualified instructor.

Performance Standard.   Per the NFM and the Air Refueling Manual.

NAV-520            2.0                    E   1 KC-130   A

Goal.   Train IUT for LL NAV stage training.

Requirement.   Instructor under training will practice all LLNAV procedures in combat capable syllabus. Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat. Standardize maneuver instruction.

Performance Standard.   Per NFM and KC-130 TACMAN.

NAV-521            2.0                    E   1 KC-130   A

Goal.   Qualify IUT for LL stage training.

Requirement.   Instructor under training in left seat conducts combat capable NAV training with student in right seat.   Flight supervised by qualified instructor.

Performance Standard.   Per the NFM and KC-130 TACMAN.

FORM-530           2.0                    E   2 KC-130   A

Goal.   Train IUT for FORM stage training.

Requirement.   Instructor under training will practice all FORM maneuvers in combat capable syllabus.   Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat.   Standardize maneuver instruction.

Performance Standard.   Per the NFM.

FORM-531           2.0                    E   2 KC-130   A

Goal.   Qualify IUT for FORM stage training.

Requirement.   Instructor under training in left seat conducts combat capable FORM training with student in right seat.   Flight supervised by qualified instructor.

Performance Standard.   Per the NFM.

AD-540            2.0                    E   1 KC-130   A

Goal.   Train IUT for AD stage training.

Requirement.   Instructor under training will practice all AD procedures in combat capable syllabus.   Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat.   Standardize maneuver instruction.

Performance Standard.   Per the NFM and KC-130 TACMAN.

AD-541            2.0                    E   1 KC-130   A

Goal.   Qualify IUT for AD stage training.

Requirement.   Instructor under training in left seat conducts combat capable AD training with student in right seat.   Flight supervised by qualified instructor.

Performance Standard.   Per the NFM and KC-130 TACMAN.

TLZ-570                    1.0                    E   1 KC-130    A

Goal.    Train IUT for TLZ stage training.

Requirement.    Instructor under training will practice all TLZ procedures in combat capable syllabus. Demonstrate ability to correct common student errors as simulated by qualified instructor in right seat. Standardize maneuver instruction.

Performance Standard.    Per the NFM and KC-130 TACMAN.

TLZ-571                    2.0                    E   1 KC-130    A

Goal.    Qualify IUT for TLZ stage training.

Requirement.    Instructor under training in left seat conducts combat capable TLZ training with student in right seat. Flight supervised by qualified instructor.

Performance Standard.    Per the NFM and KC-130 TACMAN.

### 3.   Low Altitude Tactics Instructor (LATI)

a.   Purpose.    Qualify the TPC as a LATI.

b.   General.    The T&R Manual, Volume 1 and the MAWTS-1 Course Catalog are germane. Completion of the LAT syllabus is a prerequisite. The build-up phase will be developed and supervised by the Squadron WTI. Upon certification by MAWTS-1 or the Squadron WTI, the LATI designation will be assigned by the squadron commanding officer. Currency in LAT is not required to maintain instructor designation. However, the LATI must satisfy 15 day currency requirements in order to instruct as a LATI. In instances where a disparity exists between the MAWTS-1 Course Catalog and the T&R Manual, the MAWTS-1 Course Catalog shall be germane.

c.   Prerequisites.    Completion of LAT-422.

d.   Ground Training.    KC-130 LATI Academics.

(1) The TUT will review and be capable of presenting the following lectures from the LAT Academic Support Package:

a    LAT Part I:    Philosophy and Concepts.

b    LAT Part II:    LAT Considerations.

c    KC-130 LAT Maneuvering Considerations.

(2) LAT Part V:    Instructional Techniques will be taught by the squadron WTI or a MAWTS-1 instructor.

e.   Flight Training (3 Flights. 9.0 Hours)

(1) LATI Build-up. The squadron WTI should conduct a flight build-up to ensure that the prospective LATI is prepared for certification. During the LATI build-up phase, the squadron WTI should demonstrate to the prospective LATI appropriate flight brief techniques, structure and objectives, and should highlight common errors in every maneuver. There should be particular emphasis in safety and absolute adherence to the Rules of Conduct for all portions of the LAT flight. The squadron will ensure that the prospective LATI demonstrates a working knowledge of, and an elevated level of proficiency in, all of the maneuvers delineated in the KC-130 LAT T&R syllabus prior to recommendation for certification. The LAT IUT build-up syllabus codes are LAT-532, 533, 534 and 591.

(2) LATI Certification. The LATI certification may be conducted by a KC-130 WTI pilot. The following evaluation sorties are required for LATI certification.

LAT-532                    3.0                    E 1 KC-130    A

Goal. Re-establish currency/begin certification for the LAT IUT on the LAT course. Practice flying at comfort level, terrain masking, ridgeline crossing, and proper lookout doctrine. Fly in right seat.

Requirement. The IUT will brief, instruct and debrief a low altitude flight on a low level route or closed course. Flight conduct and requirements are the same as for LAT -420.

Performance Standard. Per NFM, KC-130 TACMAN, MAWTS-1 course catalog.

LAT-533                    3.0                    E 1 KC-130    A

Goal. Continue build-up/continue certification phase with IUT flying in left seat. IUT will establish comfort level and demonstrate proficiency in the performance of hard turns, break turns, bunt maneuvers, zoom climbs, and ridgeline crossings as well as supervision of navigation and proper lookout doctrine.

Requirement. The IUT will brief, instruct, and debrief a low altitude flight on a low level route or closed course. Flight conduct and requirements are the same as for LAT -421.

Performance Standard. Per NFM, KC-130 TACMAN, MAWTS-1 course catalog.

LAT-534                    3.0                    R E 2 KC-130    A

Goal. Finish build-up/continue certification phase with formation LAT procedures.

Requirement. The IUT will brief, instruct, and debrief a Low altitude formation flight on a low level route or closed course. Flight conduct and requirements are the same as LAT 422. Additionally, IUT will demonstrate proper formation turn procedures.

Performance Standard. Per NFM, KC-130 TACMAN, MAWTS-1 Course catalog.

## 4. NATOPS Instructor

- a. Purpose. Qualify the pilot as a NATOPS/Assistant NATOPS instructor.
- b. Flight Training (1 Flight, 3.0 Hours)

NATOPS-590      3.0                      E 1 KC-130 A

Goal. Evaluate the pilot for NATOPS Instructor/Assistant Instructor designation.

Requirement. NATOPS evaluator will conduct a comprehensive evaluation with emphasis on standardization and grading criteria.

Performance Standard. Per the NFM and [OPNAV 3710.7](#)

## 5. Low Altitude Tactics Instructor Evaluation

- a. Purpose. Qualify the TPC as a LATI.
- b. General. The T&R Manual, Volume 1 and the MAWTS-1 Course Catalog are germane. Completion of either the LAT syllabus or WTI is a prerequisite.
- c. Prerequisites. Completion of LAT 532-534.
- d. Flight Training (1 Flight. 3.0 Hour)

LAT-591      3.0                      R E 1 KC-130 A

Goal. Certify the IUT as a LATI for designation by the squadron commanding officer.

Requirement. The IUT will brief, instruct, and debrief a low altitude flight on a low level route or closed course. Flight conduct is the same as LAT-533 and the IUT will demonstrate the proficiency and knowledge required to safely and properly instruct single ship and section LAT.

Performance Standard. Per NFM, KC-130 TACMAN, MAWTS-1 course catalog.

## 6. DEFTAC Instructor

- a. Purpose. Qualify the pilot as a DEFTACI.
- b. General. The T&R Manual Volume I and the MAWTS-1 course catalog are germane. Completion of the DEFTAC syllabus is a prerequisite. The build-up phase may be developed and supervised by the Squadron DEFTACI. Upon certification by MAWTS-1, the DEFTACI designation will be assigned by The squadron commanding officer.
- c. Flight Training. DEFTAC-592. See the MAWTS-1 Course Catalog.

## 7. Night System Instructor

a. Purpose. Qualify the pilot as an NSI.

b. General. The T&R Manual Volume I and the MAWTS-1 Course Catalog are germane. Night System Qualification is a prerequisite. The build-up phase may be developed and supervised by the Squadron NSI. Upon certification by MAWTS-1, the NSI designation will be assigned by the squadron commanding officer.

c. Flight Training. NVG-593. See the MAWTS-1 Course Catalog.

## 8. Weapons and Tactics Instructor (WTI)

a. Purpose. Develop highly qualified pilots into effective unit tactics instructors and expose them to current Marine Corps tactical doctrine. Additionally, this stage is designed to increase knowledge and experience of the capabilities and associated tasks of the KC-130.

b. General. Tactics and techniques will be taught per the KC-130 Tactical Manual and the MAWTS-1 supplements. only MAWTS-1 instructors shall instruct/qualify flights in this stage. Qualification shall only be achieved as shown in each flight description.

c. Flight Training. WTI-594. See the MAWTS-1 Course Catalog.

## 651. SPECIAL FLIGHT REQUIREMENTS

## 1. Functional Check Flight Pilot

a. Purpose. Qualify the TPC as a post maintenance check flight pilot.

b. Ground Training. Functional Check Flight Examination.

c. Flight Training (1 Flight 2.0 Hours)

FCF-600                      2.0                      E 1 KC-130 A

Goal. PMCF evaluation flight.

Requirement. Conduct a flight phase inspection upon completion of post maintenance discrepancies. The flight shall include the shutdown and airstart of at least one engine inflight.

Performance Standard. Per the NFM, OPNAVINST 3710.7  
OPNAVINST 4790.2.

## 2. Night Systems qualification (NSO)

a. Purpose. Qualify the pilot in basic Night Systems operations. The NVG sorties identified here are used to train the pilot leading to Night System Qualification (NSQ), and to review concepts associated with Night visual phenomena.

b. General. Pilots receiving instruction leading to NSQ in the KC-130 will be qualified in the respective 200, 300 or 400 series equivalent unaided sortie. All ground training shall be completed prior to flight training.



(1) The NSQ syllabus is the following sorties: NVG-601, 611, 620, 621, 670, 602. After the qualification flight (NVG-602), the pilot may be designated as night systems qualified by the Squadron Commanding Officer. The remaining NVG sorties may also be flown by a pilot who is not NSQ. Provided that an NSI is in a pilot seat and is providing appropriate instruction.

(2) High light level requirements pertains only to the first time the sortie is flown. A total of 5 hours shall be flown in Low Light Level conditions prior to flying NVG 602 and designation as NSQ.

(3) The intent of the NSQ syllabus is to fly NVG-601 as the pilot's initial familiarization flight. If NVG-601 has not been completed, takeoffs and landings shall be performed unaided. NVG-670, 671, 672, 680, and 681 shall not be flown without having completed NVG-601.

(4) Night currency requirements are identified in the T&R, Vol I.

c. Instructor Requirements. Shall be in accordance with T&R, Vol I. A designated Night Systems Instructor (NSI) is required to occupy a pilot's seat for all flights prior to NSQ. An NSI is also required for the initial time all "E" coded sorties are flown.

d. Ground Training (10.0 Hours)

(1) NITE Lab.

(2) MAWTS-1 KC-130 NS Course.

e. Simulator Training (2 periods 2.0 Hours). Every attempt will be made to complete simulator sorties if a night vision devices (NVD) compatible OFT/WST is available.

SNVG-601                      1.0                      E   OFT/WST   S   N

Goal. Introduce the crew to the use and wear of NVO's. Emphasis will be on cockpit preflight, inflight donning of the NVD, and aircrew coordination. Familiarize crew with ground taxi, takeoff, and landing procedures. If able, the pilot should be exposed to various light levels throughout the training period.

Requirement. Brief and fly local area familiarization utilizing NVDIS. A minimum of 4 touch and go and 2 full-stop landings should be performed.

Performance Standard. Per the NFM and KC-130 TACMAN.

SNVG-602                      1.0                      R   E   OFT/WST   S   N

Goal. Review and practice SNVG-601. Introduce low level navigation procedures utilizing NVO's. Emphasis on point to point navigation and aircrew coordination. If able, the pilot should be exposed to various light levels throughout the training period.

Requirement. Brief and fly local area FAM/LLNAV sorties utilizing NVO's. Minimum altitude will be 500 ft AGL and a minimum of 6 checkpoints. A minimum of 4 touch and go and 2 full stop landings should be performed.

Performance Standard. Per the NFM and KC-130 TACMAN.

f. Flight Training (2 Flight. 3.0 Hours)

NVG-601 1.5 R E 1 KC-130 A N

Goal. Introduce the pilot to KC-130 Night Systems and the use of NUD's in the KC-130. Emphasis will be on pre-flight, donning of the NVD's, oxygen mask, taxi procedures, aborts, takeoffs, cockpit orientation at altitude, landings, aircraft ground reversing operations, and NVD aircrew coordination.

Requirement. High light level conditions for initial flight. A minimum of 4 touch and go and 2 full stop landings should be performed.

Performance Standard. Per the NFM and KC-130 TACMAN.

NVG-602 1.5 E 1 KC-130 A N

Goal. Qualify the pilot as NSQ. Demonstrate the required skills to conduct KC-130 night operations using NVD's.

Requirement. Low or high light level conditions. Pilot to be qualified will have completed the MAWTS-1 KC-130 Night System exam prior to flying this sortie. This sortie may be flown in conjunction with: NVG-610, 611, 620, 621, 622, 630, 640, 670, 671, 672.

Prerequisite. NVG 601, 611, 620, 621, 670 and 5 hrs LLL.

Performance Standard. Per the NFM and KC-130 TACMAN.

3. Night Systems Fixed-Wing Air Refueling

a. Purpose. Provide flight training in Night Systems fixed-wing air refueling operations and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NS fixed-wing air refueling operations.

c. Flight Training (1 Flight. 1.5 Hours)

NVG-610 1.5 1 KC-130 A N

Goal. Introduce the pilot to fixed-wing aerial refueling utilizing NVD's with specific emphasis on aircrew coordination, exterior lighting considerations and refueling procedures.

Requirement. Low or high light level conditions. Conduct a rendezvous with fixed-wing receivers and perform refueling. Rendezvous and refueling altitudes shall be in accordance with T&R Manual, Volume 1 and the NATOPS Air Refueling manual. Use of EMCON procedures is optional.

Performance Standard. Per the NFM, TACMAN and the AR manual.

## 4. Night Systems Rotary-wing Air Refueling

a. Purpose. provide flight training and qualify aircrews in Basic Night Systems rotary-wing air refueling operations and to review concepts Associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NVG rotary-wing air refueling operations.

c. Flight Training (1 Flight, 1.5 Hours)

NVG-611                      1.5                      R E 1 KC-130 A N

Goal. Introduce the pilot to NS aerial refueling of helicopters with specific emphasis on aircrew coordination, rendezvous procedures and exterior lighting considerations.

Requirement. High or low light level conditions. In the Left seat, perform at least 2 head-on and 2 random rendezvous with rotary-wing(s). Refueling altitudes shall be in accordance with T&R Manual, Volume 1 and the NATOPS Air Refueling manual.

Performance Standard. Per the NFM, TACMAN and the AR manual.

## 5. Night Systems Low Level Operations

a. Purpose. Provide flight training and qualify aircrews in Night Systems low level operations and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NS low level operations.

c. Flight Training (3 Flight, 4.5 Hours)

NVG-620                      1.5                      R E 1 KC-130 A N

Goal. Conduct a low level navigation route in high light level conditions while utilizing NVD's.

Requirement. High light level conditions. Brief and fly A night low level navigation route of at least 6 checkpoints in the right seat, utilizing NVD's. Minimum altitude shall be per T&R, Vol I. Emphasis will be on point to point navigation, crew coordination, and cockpit voice procedures.

Performance Standard. Per the NFM and the KC-130 Tac manual.

NVG-621                      1.5                      R E 1 KC-130 A N

Goal. Conduct a low level navigation route in low light level conditions while utilizing NVOs.

Requirement. Low light level conditions. Brief and fly a night low level navigation route of at least 6 checkpoints in the left seat, utilizing NVO's. Minimum altitude shall be per T&R, Vol I. Emphasis will be on point to point navigation, crew coordination, and cockpit voice procedures.

Performance Standard. Per the NFM and the KC-130 Tac manual.

Prerequisite. NVG-620.

NVG-622            1.5            1 KC130    A   N

Goal. Introduce LAT procedures while utilizing NVG's.

Requirement. The NSI for this flight must be a LAT instructor. Flight is to be conducted in 2 phases. First phase: To be conducted above 1000 feet AGL. Introduce flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, break turns, hard turns, climb to cope. Second phase: To be conducted at comfort level but no lower than 500 feet AGL. Practice flying at comfort level, terrain masking, lookout doctrine, climb to cope (but no lower than T&R, Vol I mins). Hard turns and break turns will not be flown in this phase of the flight. Area to be used for LAT training should be one that affords the opportunity to perform LAT maneuvering, e.g., ridges, valleys, open areas and easily identifiable terrain features. Fly in left seat.

Prerequisite. Must be NSQ and LAT qualified. Currency per T&R, Vol I. The NSI will be a LAT I.

Performance Standard. Per the NFM and KC-130 TACMAN.

#### 6. Night Systems Formation

- a. Purpose. Provide flight training in Night Systems formation operations and to review concepts associated with night visual phenomena.
- b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NS formation operations.
- c. Flight Training (1 Flight. 1.5 Hours)

NVG-630            1.5            E   2 KC-130    A   N

Goal. Introduce the pilot to formation flight utilizing NVD's. Emphasis should be placed on aircraft exterior lighting configurations, recognition of relative motion and closure rates with NVO's, and crew coordination.

Requirement. High or low light level conditions. Wingman must be NSQ or have an NSI in one of the front seats. Brief and fly a formation flight, practicing lead and trail position flying. For initial qualification, perform at least 4 breakup and rendezvous maneuvers.

Performance Standard. Per the NFM and KC-130 TACMAN.

## 7. Night Systems Air Delivery

a. Purpose. Provide flight training in Night Systems air delivery operations and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NVG air delivery operations.

## c. Flight Training (1 Flight. 1.5 Hours)

NVG-640                      1.5                      E 1 KC-130 A N

Goal. Introduce the pilot to air delivery operations Utilizing NVD's. Emphasis should be placed on various DZ marking procedures and visual acquisition of the DZ.

Requirement. High or low light level conditions. Brief and fly an air delivery mission consisting of CDS, heavy equipment, or personnel static line. From a low level navigation course, perform a modified slowdown tactic to include an air delivery. Emphasis will be on low level navigation, checklist procedures, and aircrew coordination. The pilot shall be in the left seat for the initial sortie.

External Support. Use of the air delivery platoon and MATO Mobile Team assets are highly recommended for load prep, DZ set-up/control, and terminal area guidance using the PPN-19, RABFAC beacon, IR strobes and lights.

Performance Standard. Per the NFM and KC-130 Tac Manual.

## 8. Search and Rescue (SAR)

a. Purpose. Familiarize the pilot with SAR operations and procedures.

## b. Ground Training

(1) SAR Operations and Procedures.

(2) On-scene Commander Duties and Responsibilities.

## c. Flight/Simulator Training (1 Flight. 3.0 Hours)

SAR-650                      3.0                      1 KC-130/OFT/WST S

Goal. Familiarize the pilot with SAR operations and procedures.

Requirement. The pilot will plan, brief, fly, and debrief a preplanned SAR mission using at least two different search methods. On-scene commander duties will be optional.

Performance Standard. KC-130 TACMAN and NWP 19-1.

## 9. Direct Air Support Center (Airborne) (DASC(A))

a. Purpose. Familiarize the pilot in DASC(A)/C3 procedures and operations.

b. Ground Training

(1) MACCS/NTACS Direct Air Support Operations UYQ-3.

(2) DASC(A) Operations.

a. Flight Training (1 Flight 1.0 Hours)

DASC-651            1.0                    1 KC-130.    1 UYO-3A A

Goal. Familiarize the pilot in DASC/C3 operations.

Requirement. Pilot plans, briefs, debriefs, and flies a DASC(A) mission in coordination with the SAD.

Performance Standard. KC-130 TACMAN.

## 10. Casualty Evacuation

a. Purpose. Familiarize the pilot with casualty evacuation operations and procedures.

b. Ground Training

(1) Tactical Casualty Regulating/Handling Procedures.

(2) Casualty Evacuation Operations and Procedures.

c. Flight Training (1 Flight 3.0 Hours)

CPL-652            3.0                    1 KC-130    A

Goal. Familiarize the pilot with casualty evacuation operations and procedures.

Requirement. Pilot plans, briefs, debriefs, and flies a casualty evacuation mission. Casualties may be simulated.

Performance Standard. KC-130 TACMAN.

## 11. Night Systems Aircraft Survivability Equipment

a. Purpose. Provide flight training in the use of Aircraft Survivability Equipment (ASE) while flying with NVD's.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NS ASE operations.

c. Flight Training (1 Flight. 1.5 hours)

NVG-660

1.5

1 KC-130 A

Goal. Refine the utilization of the ASE suite and NVD's to include a low to medium threat tactical environment.

Requirement. High light level conditions. Demonstrate the ability to access a threat scenario and plan for the proper setup and utilization of the complete ASE suite. Correctly identify and correlate threat symbology display on the APR-39. Demonstrate the proper response to displayed threats including use of expendable and recommended maneuvers. Demonstrate the ability to use night systems and crew coordination to increase aircraft survivability.

Performance Standard. MAWTS-1 ASP.

External Support. Threat emitters.

Ordinance. Chaff/Flares.

## 12. Night Systems Temporary Landing Zone

a. Purpose. Provide flight training and qualify aircrews in Basic Night Systems temporary landing zone operations and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to NS temporary landing zone operations.

c. Flight Training (3 Flights. 4.5 Hours)

NVG-670

1.5

R E 1 KC-130 A N

Goal. Conduct touch and go landings and full stops at an improved TLZ while utilizing NVD's. Emphasis shall be on aircrew coordination during takeoff and landing phases of flight.

Requirement. High light level conditions. The pilot shall observe from the right seat at least 2 touch and go landings and 1 full stop landing demonstrated by the NSI. A seat change shall be conducted and subsequent takeoffs and landings shall be performed by the student. A minimum of 4 touch and go landings and one full stop shall be performed by the pilot. The pilot should demonstrate the ability to fly the aircraft to the intended point of touchdown. At least 2 self contained approaches should be flown.

Performance Standard. As per the NFM and KC-130 TACMAN.

NVG-671 1.5 R E 1 KC-130 A

Goal. Conduct unimproved TLZ landings while utilizing NVD's. Emphasis shall be placed on unimproved TLZ NVD considerations, to include ground operations.

Requirement. High light level conditions. A minimum of 4 touch and go and 2 full stop landings should be accomplished at an unimproved TLZ. The pilot should demonstrate the ability to fly the aircraft to the intended point of touchdown. At least 2 self contained approaches should be flown.

Performance Standard. As per the NFM and KC-130 TACMAN.

NVG-672 1.5 R E 1 KC-130 A

Goal. Conduct unimproved or improved TLZ landings in low light level conditions while utilizing NVD's. Emphasis shall be placed on differences in TLZ operations in low light level conditions from TLZ operations in high light level conditions.

Requirement. Low light level conditions. A minimum of 4 touch and go landings and 1 full stop landing should be accomplished at an unimproved TLZ. The pilot should demonstrate the ability to fly the aircraft to the intended point of touchdown. At least 2 self contained approaches should be flown.

Prerequisite. NVG 670 or 671.

Performance Standard. As per the NFM and KC-130 TACMAN.

### 13. Assisted Take-Off

- a. Purpose. Train the pilot in assisted takeoff (ATO) procedures.
- b. Ground Training. ATO procedures.
- c. Simulator Training (1 Period. 3.0 Hours)

SATO-673 3.0 OFT/WST S

Goal. Train for ATO.

Requirement. Brief and fly a minimum of 2 assisted takeoffs in the right seat and 2 assisted takeoffs in the left seat.

Performance Standard. Per the NFM and KC-130 TACMAN.

Ordinance. Eight Mk-6 JATO units.

- d. Flight Training (2 Flights. 1.0 Hour)

ATO-674 0.5 E 1 KC-130 A

Goal. Train for ATO.

Requirement. Brief and fly one assisted takeoff in the right seat.

Performance Standard. Per the NFM and KC-130 TACMAN.



Ordinance. Eight Mk-6 JATO units.

ATO-675            0.5                    E   1 KC-130      A

Goal. Train for ATO.

Requirement. Brief and fly one assisted takeoff in the left seat.

Performance Standard. Per the NFM and KC-130 TACMAN.

Ordinance. Eight Mk-6 JATO units.

#### 14. ANVIS Heads Up Display

a. Purpose. Provide ground/flight training in use of ANN'IS Heads Up Display (HUD) and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply to ANVIS HUD operations.

c. Ground Training (2.0 Hours)

d. Flight Training (2 Flight. 3.0 Hours)

NVG-680            1.5                    1 KC-130      A   N

Goal. Introduce the pilot to KC-130 ANVIS HUD its use. Emphasis will be on pre-flight, donning of the NVD and HUD, takeoffs, ANVIS HUD orientation at altitude and landings.

Requirement. High light level conditions. The pilot should be exposed to the ANVIS HUD's various modes of operation. A minimum of 4 touch and go landings and 1 full stop landing should be performed.

Performance Standard. Per NFM, and KC-130 TACMAN.

NVG-681            1.5                    1 KC-130      A   N

Goal. Refine the use of the KC-130 ANVIS HUD. The pilot will use ANVIS HUD while executing a Night Systems training flight. Emphasis should be placed on information available to the pilot from the various modes of ANVIS HUD and use of the modes in the appropriate phases of flight.

Requirement. High or low light level conditions. Brief and fly a Night Systems training sortie. The sortie can be any one of the following: NVG-620, 621, 640. This sortie may also be done in combination with any of the following: NVG-610, 611, 630, 670, 671, 672. When flying this as an initial code, this sortie should not be flown in combination with the following: NVG-622, 660. The flight brief for the pilot should contain information on the various modes of ANVIS HUD operation the pilot intends to use and when he intends to use them.

Performance Standard. Per the NFM and KC-130 Tac Manual.

## 15. Instrument

a. Purpose. Evaluate the pilot's knowledge and application of NATOPS instrument procedures and techniques.

## b. General

(1) General policy, requirements, and prerequisites concerning NATOPS instrument evaluations are contained in [OPNAV 3710.7](#) and the IFM.

(2) Instrument evaluations will be conducted in an aircraft unless otherwise authorized by the commanding officer.

c. Ground Training/Evaluation. Ground training and evaluation shall be conducted per OPNAVINST 3710.7 and IFM.

## d. Flight Training (2 Flights. 4.0 Hours)

INST-690 2.0 T, C, R, E 1 KC-130/OFT/WST (N) S/A

Goal. Conduct a standard instrument flight evaluation.

Requirement. Per [OPNAV 3710.7](#) and the IFM.

Performance Standard. [OPNAV 3710.7](#) and the IFM.

INST-691 2.0 T, C, R, E 1 KC-130/OFT/WST (N) S/A

Goal. Conduct a special instrument flight evaluation.

Requirement. Per [OPNAV 3710.7](#) and the IFM.

Performance Standard. [OPNAV 3710.7](#) and the IFM.

## 660. EXPENDABLE ORDNANCE REQUIREMENTS

## BASIC/TRANSITION/CONVERSION/REFRESHER

BASIC/TRANSITION/CONVERSION/REFRESHER

ORDNANCE	100 SERIES	200 SERIES	300 SERIES	400 SERIES	IUT	ANNUAL
LUU-2A/B,B/B			32			32
ATO BOTTLES						16
FLARES MK-46				40	40	80
CHAFF RR-129/AL				24	24	48

T&R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7557			CREW POSITION:				PILOT
TRAINING		REFLY							
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
COMBAT CAPABLE TRAINING									
SFAM	001	4.0	*	0.5	X	X			
	002	4.0	*	0.5	X	X			
	003	4.0	*	0.5	X	X			
	004	4.0	*	0.5	X	X			
	005	4.0	*	1.0	X	X	X	X	
	006	4.0	*	0.5	X	X			
	007	4.0	*	0.5	X	X			
SINST	008	4.0	*	0.5	X	X			
	009	4.0	*	0.5	X	X			
	010	4.0	*	0.5	X	X			
	011	4.0	*	0.5	X	X			
	012	4.0	*	0.5	X	X	X		
	013	4.0	*	0.5	X	X	X		
	014	4.0	*	0.5	X	X	X		
	015	4.0	*	1.0	X	X	X	X	
SAR	016	4.0	*	0.5	X	X			
SLLNAV	017	2.0	*	0.5	X	X			
	018	2.0	*	0.5	X	X			
SPMCF	019	2.0	*	0.5	X	X		X	
STLZ	020	2.0	*	0.5	X	X			
FAM	100	3.0	*	0.5	X	X			
INST	101	3.0	*	0.5	X	X	X		
	102	3.0	*	0.5	X	X			(N)
	103	3.0	*	0.5	X	X	X		(N)
	104	3.0	*	1.0	X	X			(N)
	105	3.0	*	0.5	X	X	X		
	106	3.0	*	0.5	X	X			
	107	3.0	*	0.5	X	X	X		
	108	3.0	*	0.5	X	X			(N)
	109	3.0	*	2.0	X	X	X	X	(N)
AR	110	3.0	*	0.5	X	X			
	111	3.0	*	0.5	X	X			(N)
	112	3.0	*	0.5	X	X			
	113	3.0	*	2.0	X	X		X	(N)
LLNAV	120	2.0	*	0.5	X	X			
	121	2.0	*	0.5	X	X			
	122	2.0	*	2.0	X	X		X	
FORM	130	2.0	*	0.5	X	X			2 A/C
	131	2.0	*	0.5	X	X			2 A/C
	132	2.0	*	0.5	X	X			2 A/C
	133	2.0	*	2.0	X	X		X	2 A/C
AD	140	2.0	*	1.0	X	X			
LRNAV	150	8.0	*	1.0	X	X			(N)
	151	8.0	*	1.0	X	X		X	(N)
TLZ	170	2.0	*	1.0	X	X			
CK	190	3.0	*	3.0	X	X		X	(N)

Figure 6-1.--Pilot Refly Interval, Combat Readiness Percentage.

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7557			CREW POSITION:				PILOT
TRAINING		REFLY							
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
COMBAT READY TRAINING									
FAM	200	3.0	6	0.5	X	X	X	X	
	201	3.0	6	0.5	X	X	X	X	N
AR	210	4.0	12	1.0	X	X		X	
	211	4.0	12	0.8	X	X			N
AR	212	4.0	12	1.0	X	X	X	X	
	213	4.0	12	0.8	X	X			N
LLNAV	220	4.0	12	0.5	X	X	X	X	
	221	4.0	12	0.5	X	X		X	N
FORM	230	4.0	12	0.6	X	X			2 A/C
	231	3.0	6	0.6	X	X			N 2 A/C
	232	3.0	6	0.6	X	X		X	N 2 A/C
	233	4.0	12	0.6	X	X			3 A/C
	234	4.0	12	0.6	X	X		X	3 A/C
AD	240	3.0	12	0.5	X	X		X	
	241	3.0	12	0.5	X	X		X	
LRNAV	250	9.0	12	0.3	X	X			(N)
	251	9.0	12	0.6	X	X		x	(N)
TLZ	270	3.0	6	1.0	X	X		X	
	271	3.0	6	1.0	X	X	X	X	N
	272	2.0	12	0.5	X	X			(N)
RGR	273	2.0	12	0.5	X	X			
	274	2.0	12	0.5	X	X		X	N
CK	290	3.0	12	1.0	X	X	X	X	(N)
COMBAT OUALIFICATION TRAINING									
AR	310	4.0	12	0.9	X	X			
	311	4.0	6	0.9	X	X		X	N
AR	312	6.0	12	1.0	X	X	X	X	2+ A/C
	333	6.0	6	1.0	X	X		X	N 3+ A/C
LLFORM	330	4.0	12	0.8	X	X			2 A/C
	331	3.0	6	0.8	X	X		X	N 2 A/C
FORM	332	4.0	6	0.8	X	X		X	N 3+ A/C
AD	340	3.0	12	0.5	X	X	X	X	
	341	3.0	12	0.5	X	X			N
	342	4.0	12	0.5	X	X		x	(N)
	343	3.0	12	0.5	X	X			(N)
	344	4.0	12	1.0	X	X			N

Figure 6-1.--Pilot Refly Interval, Combat Readiness Percentage--Continued.

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7557			CREW POSITION:				PILOT
TRAINING		REFLY							
<u>STAGE</u>	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARK
ASE	360	2.0	12	0.3	X	X			
TLZ	370	3.0	6	1.2	X	X		X	
	371	3.0	6	1.3	X	X		X	N
TPC	390	3.0	*	0.5	X	X		X	
	391	3.0	*	0.5	X	X		X	(N)
	392	3.0	*	1.0	X	X		X	
	393	30.0	*	2.0	X	X		X	(N)
	394	3.0	12	2.0	X	X	X	X	(N)
FORM	395	4.0	12	1.0	X	X		X	2 A/C
	396	4.0	12	1.0	X	X		X	3 A/C
FULL-COMBAT OUALIFICATION TRAINING									
LAT	420	3.0	6	0.5	X	X			
	421	3.0	6	0.5	X	X		X	
	422	3.0	6	0.5	X	X		X	2 A/C
ASE	460	3.0	12	0.5	X	X			
	461	3.0	12	0.5	X	X		X	(N)
DEFTAC	462	2.0	12	0.5	X	X		X	
	463	2.0	12	0.5	X	X		X	
	464	2.0	12	0.5	X	X		X	
RAC	493	8.0	12	1.0	X	X		X	(N) 2+ A/C
IUT <u>FLIGHTS</u>									
FAM	500	2.0	*	0.0				X	
INST	501	2.0	*	0.0				X	
	502	3.0	*	0.0				X	
AR	510	3.0	*	0.0				X	
	511	3.0	*	0.0				X	
NAV	520	2.0	*	0.0				X	
	521	2.0	*	0.0				X	
FORM	530	2.0	*	0.0				X	
	531	2.0	*	0.0				X	
AD	540	2.0	*	0.0				X	
	541	2.0	*	0.0				X	
TLZ	570	1.0	*	0.0				X	
	571	2.0	*	0.0				X	

Figure 6-1.--Pilot Refly Interval, Combat Readiness Percentage--Continued.

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7557			CREW POSITION:				PILOT
TRAINING		REFLY							
<u>STAGE</u>	<u>CODE</u>	HRS	<u>INTERVAL</u>	CRP	T	C	R	E	REMARKS
LAT	532	1.0	*	0.0				X	
	533	1.0	*	0.0				X	
	534	1.0	*	0.0				X	
NATOPS	590	3.0	*	0.0			X	X	
LAT	591	1.0	*	0.0			X	X	
DEFTACI	592	1.0	*	0.0				X	#
NVGI	593	1.0	*	0.0				X	#
#= SEE MAWTS COURSE CATALOG									
<u>SPECIAL FLIGHTS</u>									
FCF	600	2.0	*	0.0				X	
NVG	601	1.5	12	0.0			X	X	N
	602	1.5	*	0.0			X	X	N
	610	1.5	12	0.0					N
	611	1.5	12	0.0			X	X	N
	620	1.5	12	0.0			X	X	N
	621	1.5	6	0.0			X	X	N
	622	1.5	12	0.0					N
	630	1.5	*	0.0				X	N
	640	1.5	*	0.0				X	N
SAR	650	3.0	*	0.0					
DASC	651	1.0	*	0.0					
CPL	652	3.0	*	0.0					
NVG	660	1.5	12	0.0					N
NVG	670	1.5	6	0.0			X	X	N
	671	1.5	6	0.0			X	X	N
	672	1.5	6	0.0			X	X	N
ATO	674	0.5	*	0.0				X	
	675	0.5	*	0.0				X	
NVG	680	1.5	12	0.0					N
	681	1.5	*	0.0					N
INST	690	2.0	12	0.0	X	X	X	X	
	691	2.0	12	0.0	X	X	X	X	

Figure 6-1.--Pilot Refly Interval, Combat Readiness Percentage--Continued.

T&R MANUAL VOLUME 2  
PILOT FLIGHT CHAINING

FLIGHT	FLIGHT <u>UPDATED</u>
200	
201	200 210
211	210
212	
213	212
220	
221	220
230	
231	230
232	230, 231
233	230
234	230, 233
240	
241	
250	
251	250
270	200
271	200, 201, 270
272	
273	
274	273
290	200
310	210
311	210, 211, 310
312	210, 230
333	210, 211, 230, 231, 232, 233, 234, 312, 332
330	220, 230
331	220, 221, 230, 231, 232, 330
332	230, 231, 232, 233, 234
340	240, 241
341	240, 241, 340
342	241
343	240, 241
344	240
360	
370	200, 270
371	200, 201, 270, 271, 370
390	200
391	200, 390
392	200, 390, 391
393	250, 251
394	200, 290, 390, 391, 392, 393
395	230
396	230, 233, 234, 395
420	220
421	200, 220, 420
422	220, 230, 330, 420, 421
460	360
461	360, 460
462	
463	462
464	462, 463
493	210, 230, 250, 312

Figure 6-2.--Pilot Flight Update Chaining.

## PILOT FLIGHT CHAINING

FLIGHT	FLIGHT <u>UPDATED</u>
500	
501	
502	
510	
511	
520	
521	
530	
531	
540	
541	
570	
571	
532	420
533	421
534	422
590	
591	
592	
593	
594	
601	200, 201
602	
610	210, 211, 601
611	213, 601, 610
620	220, 221, 601
621	220, 221, 601, 620
622	220, 221, 421, 601, 620
630	230, 232, 601
640	341, 601, 620, 621
650	
651	
652	
653	
660	360, 460
670	271, 601
671	371, 601, 670
672	271, 371, 601, 670, 671
680	601
681	601
690	
691	

Figure 6-2.--Pilot Flight Update Chaining--Continued.



T&R MANUAL VOLUME 2

CHAPTER 7

KC-130 NAVIGATOR

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**\*\*NOTE\*\***

Aircrew coordination shall be briefed on all flights and/or events.

MARINE AERIAL REFUELING SQUADRON - KC-130  
UNIT TEMPLATE

NOTE

The capabilities defined and described in the core capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgement of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long term health and readiness of his unit while staying within his resource constraints.

1. TABLE OF ORGANIZATION

PAA-12 A/C: 26 TPC/16 T2P or T3P/23 NAV/25 F ENG/24 LOADM/24 F MECH

2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situation dependent.

b. A core capable squadron is able to sortie two divisions (-) of mission capable aerial refueling aircraft and within four hours of landing, sortie two more sections or sortie three sections of mission capable assault support aircraft and within four hours of landing, sortie two more sections. Perform the above from either a main base location or appropriate sized expeditionary airfield. All aircraft are capable of aerial and rapid ground refueling, assault support and two platforms being DE/IRCM equipped.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew Who are at least 75% complete in each listed core skill.

## 4. REQUIRED CORE SKILLS AND SORTIES

## 4. REQUIRED CORE SKILLS AND SORTIES

	RW/PW AR	RGR	TLZ/EAF	AD	ASE	LR NAV	LOW LEVEL
Initial Qual	3	1	1	3	1	4	2
Refresher Qual	3	1	1	3	1	4	2
T&R CODES	210,211, 212	271	270	240,241, 242	260	250,251, 252,253	220,221

5. SORTIES REQUIRED TO MAINTAIN CORE SKILLS. For each twelve month period after achieving competency, a navigator would be required to fly the following number of sorties in each skill area to maintain that competency.

	RW/PW AR	RGR	TLZ/EAF	AD	ASE	LR NAV	LOW LEVEL
AIRCREW	2	1	1	3	1	2	2

6. FLIGHT LEADER/INSTRUCTOR QUALIFICATIONS. As a minimum, in order for a squadron to be considered Core Competent, it must possess the following numbers of aircrew in the listed flight leadership/instructor categories. (Note: If the squadron is < T/O, required numbers are reduced by a like %).

DESCRIPTION	CORE MINIMUM	REMARKS
TPC	16	
SEC LDR	8	
DIV LDR	6	
LATI	4	
ANI/INSTI	4	PER CREW POSITION
WTI/WTACI	2	PER CREW POSITION
RAC	4	
DEFTAC I		
NSI	2	PER CREW POSITION
FCF	12	
RC	2	

## 7. SORTIES REQUIRED TO QUALIFY FOR DESIGNATION AS CELNAV/NAVI/RC

7. SORTIES REQUIRED TO QUALIFY FOR DESIGNATION AS CELNAV/NAVI/RC

	NAVI	CELNAV	WTI/ WTACI	NSI	RC
SORTIES	1	8	MAWTS-1	10	2
T&R CODES	590	250,251, 252,253, 350,351, 450,451		601,602, 610,620, 621,622, 640,660, 670,671	312,410

I/RC

7-4

## 700. PROGRAMS OF INSTRUCTION (POI) FOR BASIC NAVIGATOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-2	Squadron Ground Training	Training Squadron
3-22	Combat Capable Training	Training Squadron
23-29	Combat Ready Training	Tactical Squadron
30-33	Combat Qualification Training	Tactical Squadron
34-37	Full-Combat Qualification Training	Tactical Squadron

## 701. P01 FOR REFRESHER NAVIGATOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Squadron Ground Training	Training Squadron
2-3	Combat Ready Training	Training Squadron

## 710. GROUND TRAINING COURSES OF INSTRUCTION

<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
Naval Aircrew Candidate Course	NAS Pensacola, FL
Marine Aerial Navigators School	Randolf AFB, TX
Water Survival Training	NAWSTP
Survival, Evasion, Resistance and Escape School	NAS Brunswick, ME
Central Altitude Reservation Facility	
Indoctrination ARTCC Facility	NAS North Island, CA
Weapons Tactics Instructor (WTI)	MAWTS-1, MCAS Yuma, AZ
Weapons Tactics Aircrew Instructor (WTACI)	MAWTS-1, MCAS Yuma,
AzAdvanced Airlift Tactics Training Course	St Joseph, MO
Combat Aircrew Training School (CATS)	Nellis AFB, NV

## 711. SOUAORON LEVEL TRAINING

Aircraft, Emergency Equipment, and Emergency Procedures Familiarization  
 Route Procedures  
 Publications and Foreign Clearance Guide  
 Mission Planning and Fuel Requirements  
 Meteorology Review  
 Radio Navigation and Flight Instruments  
 RADAR Techniques  
 Maintenance of In-flight Publications  
 Aerial Refueling  
 Rendezvous Control  
 Air Delivery Techniques  
 Introduction to Altitude Reservations  
 Low Level Navigation Techniques  
 Temporary Landing Zone (TLZ) Operations  
 Search and Rescue Operations  
 Jet Assisted Takeoff Operations  
 Low Altitude Tactics  
 Computed Air Release Points  
 Tactical Aircraft Mission Planning System  
 Twenty Minute Checklist Procedures  
 Rapid Ground Refueling Procedures  
 Customs and Agriculture Inspection Requirements  
 Navigator's Responsibility During Ground/Airborne Emergencies  
 NATOPS Open Book Examination  
 NATOPS Closed Book Examination

720. FLIGHT TRAINING. The number of hours depicted in the flight training syllabus are considered to be the optimum instructional hours necessary to accomplish training objectives for each flight.

#### 721. BASIC NAVIGATOR TRAINING

##### 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Basic Qualification	—	—	25.0
Ground Familiarization	0	0.0	0.0
Overland Familiarization	6	12.0	6.0
Aerial Refueling Familiarization	3	6.0	3.0
Low Level Familiarization	3	3.0	3.0
Aerial Delivery Familiarization	1	1.0	1.0
Extended Over-water Familiarization	3	24.0	3.0
Extended Over-water Navigation	6	48.0	12.0
Navigator Check	1	8.0	7.0
	23	102.0	60.0

##### 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Overland Familiarization	1	4.0	1.0
Aerial Refueling	3	9.0	3.0
Low Level Navigation	2	4.0	2.0
Aerial Delivery	3	3.0	3.0
Extended Over-water Navigation	4	32.0	5.0
EAF/TLZ	1	2.0	0.5
RGR	1	1.0	0.5
	15	55.0	15.0

##### 3. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Aerial Refueling	3	8.0	4.5
Low Level Navigation	1	2.0	1.5
Aerial Delivery	5	6.0	5.0
Extended Over-water Navigation	4	32.0	7.0
EAF/TLZ	2	4.0	2.0
	15	52.0	20.0

##### 4. Full-Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Aerial Refueling	1	8.0	0.6
Low Altitude Tactics	2	4.0	1.2
Aircraft Survivability Equipment	3	4.5	1.8
DEFTAC	2	3.0	1.4
	5	19.5	5.0
TOTAL	58	228.5	100.0

## 722. REFRESHER NAVIGATOR TRAINING

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Overland Familiarization	2	4.0
Extended Over-water Navigation	2	16.0
NATOPS Check	1	8.0
	5	28.0

## 723. INSTRUCTOR UNDER TRAINING (IUT)

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Navigation Instructor Check	1	3.0
Night Vision Goggle Instructor Check	1	3.0
NATOPS Instructor Check	1	3.0
Weapons Tactics Instructor Course		
Weapons Tactics Aircrew Instructor Course		
MAWTS-1		
Advanced Airlift Tactics Training Course (AATTC)		
Combat Aircrew Training School (CATS) Nellis AFB1 NV		

730. SIMULATOR TRAINING. Approved IFARS WST simulators are contained in OPNAVINST 3710.7\_. If an approved simulator is not available, unapproved simulators may be used for simulator training at the discretion of the squadron commander.

## 1. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Aerial Refueling	1	2.0
Low Level Navigation	2	4.0
Aerial Delivery	2	3.0
Search and Rescue (600 level)	1	3.0
	6	12.0

## 2. Combat Qualified Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Aerial Refueling	1	2.0
Aerial Delivery	1	1.0
EAFF/ TLZ	2	4.0
	4	7.0

## 3. Full-Combat Qualified Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Low Altitude Tactics	1	2.0
Aircraft Survivability Equipment	2	3.0
	3	5.0
TOTAL	13	24.0



## 740. FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

1. Route Selection. Route selection should offer maximum variations in enroute conditions.
2. Crew Seat. The trainee is required to occupy the navigator's position in the flight station on all syllabus training flights unless the syllabus specifically allows for the training to be accomplished elsewhere.
3. Refly Intervals. Syllabus refly intervals can be located in Figure 7-1. Combat Capable events (100 series) are one-time events and are not repeated. An aircrewman returning from a DIFDEN tour exceeding 12 months will complete the refresher syllabus.
4. Aircrew Coordination. Aircrew coordination shall be briefed for all flights and/or events.

## 741. COMBAT CAPABLE TRAINING

## 1. Ground Familiarization

a. Purpose. Familiarize the navigator trainee with the KC-130 aircraft and associated equipment. Specifically at the end of this stage of training the trainee will be:

- (1) Able to perform a preflight and postflight of the KC-130.
- (2) Able to demonstrate the proper use of all emergency equipment and procedures PER Chapter 5 of the KC-130 NATOPS manual.

(3) Familiar with current FLIP procedures.

b. General. No flight training is required in this stage.

## c. Ground Training

- (1) Trainee will attend the Instrument Ground School (IGS)
- (2) Trainee will have completed squadron level instruction prior to this stage.

## 2. Overland Familiarization

a. Purpose. Familiarize the navigator trainee with the location and operation of navigation equipment aboard the KC-130 aircraft, and the associated publications. Introduce publications, forms, and procedures relative to airways/random route flying. Specifically, at the end of this stage the trainee will be able to:

- (1) Perform a complete pre/postflight of the aircraft navigation equipment and publications.
- (2) Understand and use current flight information publications, enroute charts, and airways logs.
- (3) Select the best route of flight by means of weather analysis. Properly complete and file the [DD-175](#) form.

(4) Understand basic radio/ICS procedures and obtain flight clearances by UHF/VHF radio.

(5) Understand the basic RADAR operation with ground and weather interpretation.

(6) Use the ADF, VOR, TACAN, GPS, and INS as navigational aids.

(7) Explain/perform the emergency procedures on all sorties as they pertain to the navigator.

(8) File a flight plan with and obtain a weather briefing from a Flight Service Station via phone or UHF/VHF radio.

(9) Understand crew coordination and the duties of the navigator as a crewmember of the aircraft.

b. General. Current planning procedures as defined in current flight publications shall be utilized.

(1) Trainee will receive a minimum of two cross-country flights to an airfield more than one hour distant from home station. During these missions the trainee will be required to file a flight plan and obtain a weather brief at destination airfield.

(2) Actual weather avoidance shall be satisfactorily demonstrated at least once by the trainee before completing this stage of training.

(3) Current planning procedures as defined in current flight publications shall be utilized.

c. Ground Training. Trainee will have completed the required ground training, to include Aircrew Coordination Training, prior to the first flight.

d. Flight Training (6 Flights. 12.0 Hours)

FAM-100                    2.0                    1 KC-130   A

Goal. Introduce KC-130 navigation responsibilities.

Requirement. Introduce the trainee to all KC-130 overland duties. Perform a complete pre-/post-flight inspection of the aircraft navigation equipment and publications. Understand and use current flight information publication enroute charts and airways log.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

FAM-101                    2.0                    1 KC-130   A

Goal. Familiarize the trainee with all KC-130 overland navigation aids and duties.

Requirement. Obtain a DD-175-1 weather brief. Select the best route of flight by means of weather analysis. Properly complete and file a DD-175 flight plan. Demonstrate and refine training included in FAM-100.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

FAM-102

2.0 1 KC-130 A

Goal. Refine KC-130 navigation skills and responsibilities.

Requirement. Understand basic ICS/radio procedures. Obtain flight clearance via UHF/VHF radio. Explain the requirements and procedures for an emergency ground evacuation. Demonstrate and refine training contained in FAM-101, and FAM-102.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

FAM-103

2.0 1 KC-130 A

Goal. Refine KC-130 navigation skills and responsibilities.

Requirement. Understand the basic RADAR operation with ground and weather interpretation. Use ADF, VOR, TACAN, INS, and GPS as navigation aids. Explain the navigator's duties during all inflight emergencies. Demonstrate and refine all training contained in FAM-100, FAM-101, and FAM-102.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

FAM-104

2.0 R 1 KC-130 A

Goal. Review KC-130 navigation procedure and equipment.

Requirement. Explain and perform the procedures for all inflight and ground emergencies. Demonstrate mission planning ability to include; fuel planning, departure/destination alternates, and weather minimum criteria. Demonstrate and refine all training contained in FAM-100, FAM-101, FAM-102 and FAM-103.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

FAM-105

2.0 R, E 1 KC-130 A

Goal. Qualify the trainee to fly local overland non-tactical training missions without an instructor navigator aboard the aircraft.

Requirement. Perform overland navigation flight planning and crew duties. Understand crew coordination and the duties of the navigator as a crewmember in the aircraft. The trainee shall have flown two cross-country flights and demonstrated the ability to identify and avoid hazardous weather during this stage of training.

Performance Standard. Per NFM, FLIP, Squadron SOP, OPNAVINST 3710.7x and FRS Student Guide.

### 3. Aerial Refueling

a. Purpose. Introduce the navigator trainee to air refueling procedures, mission planning, and crew coordination. At the end of this stage the trainee will be able to perform navigator duties associated with local refueling missions above 5,000 ft AGL.

#### b. General

(1) The trainee will observe the refueling mission from the navigator's position and from the observer's position.

(2) Flights should be accomplished in local refueling areas.

(3) Introduce all appropriate navigation aids (APX-76, Air to Air TACAN, UHF/DF) and join-up procedures.

c. Ground Training. Trainee will review the Aerial Refueling Lecture prior to this stage.

#### d. Flight Training (3 Flights 6.0 Hours)

AR-110                      2.0                      1 KC-130    A

Goal. Introduce fixed-wing air refueling procedures.

Requirement. On local refueling missions, trainee will observe air refueling procedures and maintain the aircraft's position.

Performance Standard. Per NFM, Air Refueling Man, and FRS Student Guide.

AR-111                      2.0                      1 KC-130    A

Goal. Refine fixed-wing air refueling procedures.

Requirement. On local refueling missions, trainee will observe air refueling procedures and maintain the aircraft's position.

Performance Standard. Per NFM, Air Refueling Man, and FRS Student Guide.

AR-112                      2.0                      1 KC-130    A

Goal. Introduce helicopter air refueling procedures.

Requirement. On local refueling missions, trainee will observe helicopter air refueling procedures and maintain the aircraft's position.

Performance Standard. Per NFM, Air Refueling Man, and FRS Student Guide.

### 4. Low Level Navigation

a. Purpose. Introduce the trainee to low level navigation. At the end of this stage the trainee will be able to:

(1) Construct a low level chart PER current procedures and directives.

(2) Maintain the aircraft's position and direct the aircraft on a low level route utilizing terrain and cultural features.

(3) Act as the primary navigator utilizing all available internal navigation equipment during one low level syllabus flight.

b. General

(1) Training shall be conducted in VMC.

(2) All flights will be flown in accordance with T&R Volume 1 altitude criteria.

(3) Emphasis shall be placed on position awareness and time control.

c. Ground Training. Trainee must have completed the Low Level Navigation Techniques Lecture prior to this stage.

d. Flight Training (3 Flights. 3.0 Hours)

LL-120                    1.0                    1 KC-130    A

Goal. Introduce navigator responsibilities on low level missions.

Requirement

(1) Familiarize trainee with low level navigation utilizing terrain and cultural features.

(2) The low level route shall consist of a minimum of 6 preselected points.

Performance Standard. Per TACMAN, AIRNAVMAN, and FRS Student Guide.

LL-121                    1.0                    1 KC-130    A

Goal. Refine navigator responsibilities on low level missions.

Requirement

(1) Familiarize trainee with all low level navigation aids and navigator duties.

(2) The low level route shall consist of a minimum of 6 preselected points.

Performance Standard. Per TACMAN, AIRNAVMAN, and FRS Student Guide.

LL-122                    1.0                    1 KC-130    A

Goal. Perform low level planning and act as the primary navigator while navigating a low level mission.

Requirement

(1) Refine training included in LL-120 and LL-121.

(2) The low level route shall consist of a minimum of 6 preselected points.

Performance Standard. Per TACMAN, AJRNAVMAN, and FRS Student Guide.

## 5. Aerial Delivery Familiarization

a. Purpose. Introduce the trainee to aerial delivery procedures. Specifically, at the end of this stage the trainee will have a basic knowledge of:

- (1) Slowdown procedures.
- (2) Drop Zone Markings.
- (3) Computed Air Release Point.
- (4) Speed and altitude restrictions.

### b. General

- (1) Training shall be conducted in VMC.
- (2) Airdrops require ground support for load and zone.

c. Ground Training. Trainee must have completed the Introduction to Aerial Delivery Lecture prior to this stage.

### d. Flight Training (1 Flight, 1.0 Hour)

AD-140                      1.0                      1 KC-130    A

Goal. Introduce trainee to aerial delivery procedures.

Requirements. Familiarize trainee with all aspects of Aerial delivery operations.

Performance Standard. Per TACMAN and FRS Student Guide.

## 6. Extended Over-water Familiarization

a. Purpose. Familiarize the navigator trainee with the requirements of extended over-water navigation for safe conduct of transoceanic flights. At the end of this stage the trainee will be able to:

- (1) Prepare a standard form flight plan and an ICAG flight plan.
- (2) Construct a chart using correct symbols.
- (3) Construct a range control and understand its in-flight use.
- (4) Use weather analysis and computation of winds to determine the best route of flight.
- (5) Demonstrate position reporting requirements and proper log entries.
- (6) Demonstrate the ability to integrate all available navigation aids in resolving fixes.

(7) Demonstrate customs and foreign clearance procedures.

b. General

(1) All flights in this stage may be flown while tracking a more advanced navigator.

(2) Flights shall be accomplished on extended over-water missions with a minimum of one 6 hour great circle route each.

c. Ground Training. Trainee must have completed the Customs and Agriculture Inspection Requirements Lecture prior to this stage.

d. Flight Training (3 Flights. 24.0 Hours)

EON-150-152      8.0                      1 KC-130    A

Goal. Introduce extended over-water navigation responsibilities.

Requirement. Plan and navigate extended over-water navigation flights utilizing appropriate navigation equipment.

Performance Standard. Per the NFM, FLIP, ICAO, and FRS Student Guide.

7. Extended Over Water Navigation

a. Purpose. Provide the trainee an opportunity to develop the proficiency and confidence required for safe extended over-water navigation. Specifically, at the end of this stage the trainee will be able to:

- (1) Integrate all available navigation aids.
- (2) Accurately compute and plot celestial lines of position.
- (3) Accurately compute and plot pressure lines of position.
- (4) Use the aircraft's RADAR for fixing and/or weather avoidance.
- (5) Maintain a 30 minute day or 40 minute night fix-to-fix routine.
- (6) Correctly determine the required fuel load, ensuring fuel consumption and corresponding progress toward destination are within safe limits.

b. General

(1) Flights shall be accomplished on extended over-water missions with a minimum of one 6 hour great circle route each.

(2) Flights will be designed to allow the trainee to develop proficiency and practice integrating all available navigational aids.

(3) Emphasis will be placed on increasing accuracy and technique in computations and plotting.

(4) A minimum of two flights shall be flown at night.

c. Ground Training. Trainee will review all classes relating to extended over-water navigation.

d. Flight Training (6 Flights 48.0 Hours)

EON-153-158      8.0                      R   1 KC-130   A   (N)

Goal. Integrate all available navigation aids emphasizing INS and GPS operations.

Requirement. The trainee will demonstrate the ability to navigate along a predetermined course using a fix-to-fix routine where Celestial INS and/or GPS are all compared to determine the aircraft's position within FLIP tolerances.

Performance Standard. Per NFM, FLIP, ICAO, and FRS Student Guide.

8. Navigator Check

a. Purpose. A NATOPS evaluation is given to determine if the minimum basic requirements for overland and extended over-water navigation have been attained by the trainee. Upon successful completion the trainee will be designated as qualified and receive the MOS 7372. The navigator will be qualified to navigate outside RADAR coverage when capable of fixing the aircraft's position once an hour utilizing available radio aids or when the aircraft is equipped:

(1) With operable single INS and GPS.

(2) With operable dual INS.

b. General

(1) Flight shall be accomplished on an extended over-water mission with a minimum of one 6 hour great circle route.

(2) A member of the Standardization Board shall evaluate this flight.

(3) Trainee will be evaluated on all phases of overland and extended over-water navigation per NATOPS.

(4) Trainee must obtain a grade of qualified in all areas.

c. Ground Training. Trainee must successfully complete the NATOPS open and closed book examinations prior to this flight.

d. Flight Training (1 Flight 8.0 Hours)

NAVCK-190      8.0                      R.   E 1 KC-130   A   (N)

Goal. Evaluation flight.

Requirement. Over-water and overland NATOPS check.

Performance Standard. Per NFM, FLIP, ICAO procedures, and FRS Student Guide.



## 742. COMBAT READY TRAINING

## 1. Overland Familiarization

a. Purpose. Familiarize the navigator with the local squadron procedures.

## b. General

(1) Flight shall be conducted within the local area.

(2) Emphasis shall be on local field and squadron operating procedures.

c. Ground Training. The navigator will review the squadron/navigation SOP's prior to this flight and shall successfully complete a local course rules examination.

## d. Flight Training (1 Flight. 4.0 Hours)

OL-200                      4.0                      1 KC-130    A

Goal. Introduce the navigator with the local area and squadron operating procedures.

Requirement. Perform overland local flight planning per local and squadron SOP's.

Performance Standard. Per local and squadron directives, the NFM, FLIP, and ICAO procedures.

## 2. Aerial Refueling

a. Purpose. Develop the navigator's knowledge, understanding, and proficiency to that point required for the various types of air refueling missions.

## b. General. Aircraft should have an operating APX-76.

c. Ground Training. The navigator will review the NFM and air refueling procedures and receive classes on "Air Refueling Procedures" prior to this stage.

## d. Simulator Training (1 Flight. 2.0 Hours)

SAR-210                      2.0                      WST    S

Goal. Introduce day/night air refueling responsibilities, join-up procedures, and crew coordination with fixed-wing & rotary-wing aircraft.

Requirement. On a air refueling mission, plan and perform navigation duties.

Performance Standard. Per NMF, TACMAN, and Air Refueling Man.

## e. Flight Training (3 Flights. 9.0 Hours)

AR-210 3.0[1.5] 1 KC-130 A (N)

Goal. Introduce day/night air refueling responsibilities, join-up procedures and crew coordination with fixed-wing aircraft.

Requirement. On local air refueling mission, plan and perform navigation duties.

Prerequisite. OL-200.

Performance Standard. Per NMF, TACMAN, and Air Refueling Man.

External Syllabus Support. Fixed-wing receivers required.

AR-211 3.0[1.5] 1 KC-130 A

Goal. Introduce day air refueling responsibilities, join-up procedures, and crew coordination with rotary-wing aircraft.

Requirement. Repeat the training included in AR-210.

Prerequisite. OL-200

Performance Standard. Per NFM, TACMAN, and Air Refueling Man.

External Syllabus Support. Rotary-wing receivers required.

AR-212 3.0[1.5] 1 KC-130 A N

Goal. Introduce night air refueling responsibilities, join-up procedures, and crew coordination with rotary-wing aircraft.

Requirement. Repeat the training included in AR-210 and 211.

Prerequisite. AR-211.

Performance Standard. Per NFM, TACMAN, and Air Refueling Man.

External Syllabus Support. Rotary-wing receivers required.

## 3. Low Level Navigation

a. Purpose. Develop the navigator's knowledge and proficiency in low level navigation.

## b. General

(1) Flights shall be accomplished in VMC.

(2) Flights will be flown in accordance with T&R Volume 1 altitude criteria.

(3) Emphasis shall be placed on terrain following and time control to destination.

c. Ground Training. The navigator will review the class on "Low Level Navigation" and receive classes on "Tactical Aircraft Mission Planning System (TAMPS)" where available prior to this stage.

d. Simulator Training (2 Flights 4.0 Hours)

SLL-220 2.0 WST S

Goal. Refine low level navigation techniques.

Requirement

(1) Plan and navigate along a low level route integrating all available navigation aids.

(2) The low level route shall consist of a minimum of 6 preselected points.

Performance Standard. Per NFM, TACMAN, and AIRNAVMAN.

SLL-221 2.0 WST S

Goal. Introduce night low level navigation techniques.

Requirement

(1) Plan and navigate along a low level route integrating all available navigation aids.

(2) The low level route shall consist of a minimum of 6 preselected points.

Performance Standard. Per NFM, TACMAN, and AIRNAVMAN.

e. Flight Training (2 Flights 4.0 Hours)

LL-220 2.0[1.0] 1 KC-130 A

Goal. Refine low level navigation techniques.

Requirement

(1) Plan and navigate along a low level route integrating all available navigation aids.

(2) The low level route shall consist of a minimum of 6 preselected points.

Prerequisite. OL-200.

Performance Standard. Per NFM, TACMAN, and AIRNAVMAN.

LL-221

2.of[1.0]

1 KC-130 A N

Goal. Introduce night low level navigation techniques, emphasizing use of search radar and crew coordination considerations.

Requirement

(1) Plan and navigate along a low level route integrating all available navigation aids.

(2) The low level route shall consist of a minimum of 6 preselected points.

Prerequisite. LL-220.

Performance Standard. Per NFM, TACMAN, and AIRNAVMAN.

#### 4. Aerial Delivery

a. Purpose. Instruct the navigator in aerial delivery techniques. At the end of this stage the navigator will be able to compute an air delivery release point, understand all checklists & time warnings, and call the airdrop.

b. General

(1) Flights shall be conducted during day VMC conditions.

(2) Instruction should be conducted by a WTI/WTACI.

c. Ground Training. The navigator shall receive lectures on Air Delivery Techniques and Computed Air Release Points prior to this stage.

d. Simulator Training (2 Flights. 3.0 Hours)

SAD-240

1.5

WST S

Goal. Introduce air delivery techniques and navigation to release points in connection with static line personnel drops.

Requirement. Plan a route to a drop zone, relay all time warnings, and compute/call a drop.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

SAD-241

1.5

WSTS

Goal. Introduce air delivery techniques and navigation to release points in connection with containerized delivery system (CDS) drops.

Requirement. Plan a route to a drop zone, relay all time warnings, and compute/call a drop.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

## e. Flight Training (2 Flights. 2.0 Hours)

AD-240 1.0 1 KC-130 A

Goal. Introduce air delivery techniques and navigation to release points in connection with static line personnel drops.

Requirement. Plan a route to a drop zone, relay all time warnings, and compute/call a drop.

Prerequisite. OL-200.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

External Syllabus Support. Requires qualified Static Line Parachutists.

AD-241 1.0 1 KC-130 A

Goal. Introduce air delivery techniques and navigation to release points in connection with containerized delivery system (CDS) drops.

Requirement. Plan a route to a drop zone, relay all time warnings, and compute/call a drop.

Prerequisite. CR-200.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

External Syllabus Support. Air Delivery Platoon or equivalent support required.

AD-242 1.0 1 KC-130 A (N)

Goal. Conduct aerial delivery of heavy equipment.

Requirement. Successfully plan and navigate to a drop zone and compute/call an actual drop of heavy equipment.

Prerequisite. OL-200.

Performance Standard. Per TACMAN, MCCRESMAN and NFM.

External Syllabus Support. Requires qualified Air Delivery Platoon or Combat Control Team (USAF) personnel.

## 5. Extended Over-water Navigation

## a. Purpose

(1) Develop the navigator's knowledge, understanding, and proficiency to the degree required of an extended over-water navigator operating in an ICAO environment.

(2) Develop a thorough knowledge of applicable KC-130 systems and mission planning.

(3) Upon successful completion of this stage of training, the navigator will be qualified to operate outside of radar coverage with a minimum of one operable computer navigation system (INS or GPS).

b. General

(1) Flights shall be accomplished on extended over-water missions with a minimum of one 6 hour great circle route each.

(2) Emphasis shall be placed on course control fuel management, and developing a celestial fix-to-fix routine. Flight training in this stage will begin utilizing all available navigation systems, progressing toward a celestial only environment.

(3) Flights may be conducted during day or night missions.

c. Ground Training. The navigator shall review flight planning procedures and receive lectures on IOAO, FOG, OPAR's, and Flight Advisory Procedures prior to this stage.

d. Flight Training (4 Flights. 32.0 Hours)

EON-250            8.0 [6.01]            1 KC-130    A    (N)

Goal    Prepare the navigator for extended over-water celestial navigation designation.

Requirement

(1) Plan and execute an extended over-water mission.

(2) Refine extended over-water techniques.

(3) Navigate along a predetermined course using a 40 minute fix-to-fix routine where celestial, pressure, INS, and/or GPS are all compared to determine the aircraft's position within FLIP tolerances.

Performance Standard.    Per NFM, FLIP, FOG, AIRNAVMAN, and IOAO procedures.

EON-251            8.0[6.0]            1 KC-130    A    (N)

Goal.    Prepare the navigator for extended over-water celestial navigation designation.

Requirement

(1) Plan and execute an extended over-water mission.

(2) Refine extended over-water techniques.

(3) Navigate along a predetermined course using a 30 minute fix-to-fix routine. All available navigation aids will be used to determine the aircraft's position from take-off to ETP. From ETP to landing, aircraft position will be determined using all navigational aids except for the on-board computer navigation systems.

Prerequisite.    EON-250.

Performance Standard. Per NFM, FLIP, FCG1 AJRNAVMAN, and ICAQ procedures.

EON-252 8.0[6.0] 1 KC-130 A (N)

Goal. Prepare the navigator for extended over-water celestial navigation designation.

Requirement

- (1) Plan and execute an extended over-water mission.
- (2) Refine extended over-water techniques.
- (3) Navigate along a predetermined course using a 30 minute fix-to-fix routine. All available navigation aids expect for on-board computer navigation systems will be used to determine the aircraft's position from take-off to ETP. From ETP to landing, aircraft position will be determined using all available navigation aids.

Prerequisite. EON-251.

Performance Standard. Per NFM, FLIP, FCG, AIRNAVMAN, and ICAG procedures.

EON-253 8.0[6.0] E 1 KC-130 A (N)

Goal. Qualify the navigator for extended over-water celestial navigation utilizing a single computer. Upon successful completion of this training code, the navigator will be qualified to operate outside of radar coverage with a minimum of one operable computer navigation system (INS or OPS).

Requirement

- (1) Plan and execute an extended over-water mission.
- (2) Refine extended over-water techniques.
- (3) Navigate along a predetermined course using a 30 minute fix-to-fix routine. All available navigation aids will be used to determine the aircraft's position from take-off to ETP. From ETP to radar contact, aircraft position will be determined utilizing celestial MPP procedures.

Prerequisite. EON-252.

Performance Standard. Per NFM, FLIP, FCG, AIRNAVMAN and ICAG procedures.

6. Expeditionary Airfield/Temporary Landing Zone Operations (EAF)/(TLZ)

a. Purpose. Develop the necessary skills to plan and navigate to VFR airfields (including unimproved TLZ's) and conduct RGR operations.

b. General. Flights shall be accomplished in day or night VMC.

c. Ground Training. The navigator shall receive instruction from the MAWTS-1 ASP on "Temporary Landing Zone Operations" and "Rapid Ground Refueling Operations" prior to this stage.

d. Flight Training (1 Flight. 2.0 Hours)

TLZ-270            2.0[1.0]            1 KC-130    A    (N)

Goal. Refine planning and navigation techniques required to operate at temporary landing zones equipped with minimum or no navigation aids, including execution of a low level ingress to the temporary landing zone.

Requirement. Demonstrate during TLZ operations the following:

- (1) Knowledge of airfield and approach assessment factors.
- (2) Knowledge of tactical airfield marking procedures.
- (3) The ability to DR from the initial point to a planned approach point.
- (4) The ability to integrate all navigation aids available.

Prerequisite. OL-200.

Performance Standard. Per TACMAN and MCCRESMAN.

RGR-271            1.0[0.0]            1 KC-130    A    (N)

Goal. Demonstrate an understanding of RGR procedures.

Requirement. Plan and execute a flight to an RGR site and conduct an RGR mission.

Prerequisite. OL-200.

Performance Standard. Per TACMAN, MAWTS-1 ASP, and NFM.

External Syllabus Support. Fixed-wing or rotary-wing receivers required.

## 743. COMBAT OUALIFICATION TRAINING

### 1. Aerial Refueling

a. Purpose. Qualify navigators for advanced air refueling missions.

b. General

(1) Flights shall be accomplished utilizing all navigation systems within an air refueling profile.

(2) The navigator shall assist in the planning and execution of an air refueling mission.

(3) The navigator shall lead a minimum of one TRANSCON and one TRANSOCEANIC mission utilizing an altitude reservation.



(4) Flight should be conducted within a multiplane profile.

c. Ground Training. The navigator should complete the Central Altitude Reservation Indoctrination Course and shall review the lecture on Aerial Refueling prior to this stage.

d. Simulator Training (1 Flight. 2.0 Hours)

SAR-310            2.0[1.51]            WST    S

Goal. Plan and navigate a low level fixed-wing or rotary-wing air refueling mission.

Requirement

(1) Use appropriate navigation equipment to arrive at a rendezvous point and maintain course.

(2) Refueling shall be conducted in a low level tactical environment.

(3) The low level route shall consist of a minimum of 6 preselected points.

Prerequisite. LL-220 and AR-210.

Performance Standard. Per NFM, TACMAN, AIRNAVMAN, and MAWTS-1 ASP.

e. Flight Training (3 Flights. 8.0 Hours)

AR-310            2.0[1.5]            1 KC-130    A

Goal. Plan and navigate a day low level fixed-wing or rotary-wing air refueling mission.

Requirement

(1) Use appropriate navigation equipment to arrive at a rendezvous point and maintain course.

(2) Refueling shall be conducted in a low level tactical environment.

(3) The low level route shall consist of a minimum of 6 preselected points.

Prerequisite. AR-210, AR-211, and LL-220.

Performance Standard. Per NFM, TACMAN, AIRNAVMAN, and MAWTS-1 ASP.

External Syllabus Support. Fixed-wing or rotary-wing receivers required.

AR-311                    2.0[1.5]                    1 KC-130    A    N

Goal. Plan and navigate a night low level fixed-wing or rotary-wing air refueling mission.

Requirement

(1) Use appropriate navigation equipment to arrive at a rendezvous point and maintain course.

(2) Refueling shall be conducted in a low level tactical environment.

(3) The low level route shall consist of a minimum of 6 preselected points.

Prerequisite. AR-210, AR-212, LL-221, and AR-310.

Performance Standard. Per NFM, TACMAN, AIRNAVMAN, and MAWTS-1 ASP.

External Syllabus Support. Fixed-wing or rotary wing receivers required.

AR-312                    4.0                    1 KC-130    A

Goal. Assist in planning and lead navigate a long-range air refueling mission.

Requirement. Use appropriate navigation aids to arrive at a rendezvous point and maintain course on a refueling track while using the appropriate aircraft equipment to observe the rendezvous.

Prerequisite. AR-210 and AR-211.

Performance Standard. Per NFM, TACMAN, and AIRNAVMAN.

External Syllabus Support. Fixed-wing or rotary-wing Receivers required.

## 2. Low Level Navigation

a. Purpose. Introduce the navigator to the skills required to use the aircraft's RADAR to navigate in a night low level environment.

### b. General

- (1) Flights require an operating aircraft RADAR.
- (2) Initial flight shall be conducted in night VMC.
- (3) Refly may be conducted simulating night conditions during a day low level flight.
- (4) Flights will be flown in accordance with T&R Volume 1 altitude criteria.

c. Ground Training. The navigator will review all lectures on RADAR Techniques and receive MAWTS-1 ASP instruction on RADAR and Electronic Navigation Techniques prior to this stage.

d. Flight Training (1 Flight. 2.0 Hours)

RADLL-320      2.0[1.0]      1 KC-130   A   N

Goal. Instruct the navigator in the skills necessary to perform RADAR navigation in a low level environment.

Requirement. Demonstrate the skills required to properly plan and execute a low level flight utilizing the RADAR as a primary navigation aid.

Prerequisite. LL-221.

Performance Standard. Per TACMAN and MCCRESMAN.

3. Aerial Delivery

a. Purpose. Demonstrate a thorough understanding of advanced air delivery techniques.

b. General

(1) Instruction should be conducted by a WTI/WTACI.

(2) AD-343 requires an operating aircraft radar.

c. Ground Training. The navigator will review MAWTS-1 ASP's on "Air Delivery Techniques", "Radar and Electronic Navigation Techniques", and "Battlefield Illumination" prior to applicable initial flights in this stage.

d. Simulator Training (1 Flight. 1.0 Hour)

SAD-340      1.0      WST   S

Goal. Conduct night aerial delivery of personnel stressing delivery techniques and navigation to release points.

Requirement. Successfully plan and navigate to a drop zone and compute/call an actual drop of personnel, utilizing static line techniques.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

e. Flight Training (5 Flights, 6.0 Hours)

AD-340      1.0      1 KC-130   A   N

Goal. Conduct night aerial delivery of personnel stressing delivery techniques and navigation to release points.

Requirement. Successfully plan and navigate to a drop zone and compute/call an actual drop of personnel, utilizing static line techniques.

Prerequisite. AD-240.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

External Syllabus Support. Requires qualified Static Line Parachutists.

AD-341 1.0 1 KC-130 A N

Goal. Conduct night aerial delivery of HE or CDS stressing delivery techniques and navigation to release points.

Requirement. Successfully plan and navigate to a drop zone and compute/call an actual drop of HE or CDS.

Prerequisite. AD-241 and AD-242.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

External Syllabus Support. Requires qualified Air Delivery Platoon or Combat Control Team (USAF) personnel.

AD-342 1.0 1 KC-130 A

Goal. Conduct aerial delivery of personnel utilizing Military Free-fall techniques stressing delivery techniques and navigation to release points.

Requirement. Successfully plan and navigate to a drop zone and compute/call an actual drop of personnel utilizing Military Free-fall techniques.

Prerequisite. AD-240.

Performance Standard. Per TACMAN, MCCRESMAN, and NFM.

External Syllabus Support. Requires qualified Military Free-fall Parachutists.

AD-343 1.0 1 KC-130 A (N)

Goal. Instruct the navigator in the skills necessary to perform blind airdrops at night or in less than VMC.

Requirement. Demonstrate the ability to use the aircraft RADAR to perform a blind airdrop.

Prerequisite. AD-240, AD-241, and AD-242.

Performance Standard. Per TACMAN, MCCRESMAN, and MAWTS-1 ASP.

External Syllabus Support. Requires qualified drop zone controller and RABFAC beacon.

AD-344 2.0[1.0] 1 KC-130 A N

Goal. Instruct the navigator in the skills necessary to perform Battlefield Illumination.

Requirement. Demonstrate the ability to provide Illumination using any of the following patterns: Figure 8, 90-270, racetrack or continuous orbit. Emphasis will be on mission planning and illumination procedures. Conduct at least one area illumination pattern and one point target illumination pattern utilizing a standoff orbit.

Prerequisite. OL-200.

Performance Standard. Per the NFM, TACMAN, and applicable naval weapons publications.

External Syllabus Support. Optional drop zone controller and RABFAC (PPN-19) beacon.

Ordinance. LUU-2 series flares.

#### 4. Extended Over-water Navigation

##### a. Purpose

(1) Develop the navigator's knowledge, understanding and proficiency to that degree required of a celestial qualified navigator operating in an ICAG environment.

(2) Develop a thorough knowledge of applicable KC-130 systems and mission planning.

(3) Develop extended over-water navigation skills using celestial navigation techniques as the primary means of navigation.

(4) Designate the navigator as a "Celestial Qualified Navigator," after successful completion of EON-353. This designation negates the requirement for operable computer navigation systems.

##### b. General

(1) Flights shall be accomplished on extended over-water missions with a minimum of one 6 hour great circle route each. Flights shall be designed to allow the navigator the maximum use of celestial navigation techniques.

(2) Emphasis shall be placed on course control, fuel management, developing a celestial MPP fix-to-fix routine, and celestial accuracy. The over water flight training in codes EON-351, EON-352, and EON-353 will be conducted without the use of on-board computer navigation systems.

(3) Flights may be conducted during day or night missions.

c. Ground Training. The navigator shall know flight planning, ICAO, FCG, OPAR'S and flight advisory procedures. The navigator shall demonstrate the ability to plan and execute an extended over-water mission.

##### d. Flight Training (2 Flights. 16.0 Hours)

EON-350

8.0[6.0] 1 KC-130 A (N)

Goal. Prepare the navigator for extended over-water celestial navigation designation.

Requirement

- (1) Plan and execute an extended over-water mission.
- (2) Refine extended over-water techniques.
- (3) Navigate along a predetermined course using a 30 minute fix-to-fix routine to ETP, then a 20 minute routine from ETP to landing. All available navigation aids will be used to determine the aircraft's position from take-off to initial cruise fix. From initial cruise fix to terminal radio range, position will be determined using celestial MPP procedures.

Prerequisite. EON-253

Performance Standard. Per NFM, FLIP, FCG, AIRNAVMAN, and ICAO procedures.

EON-351

8.0[6.0] 1 KC-130 A (N)

Goal. Prepare the navigator for extended over-water celestial navigation designation.

Requirement

- (1) Plan and execute an extended over-water mission.
- (2) Refine extended over-water techniques.
- (3) Navigate along a predetermined course using a 20 minute fix-to-fix routine. All available navigation aids, excluding on-board computer navigation systems, will be used to determine the aircraft's position. Beyond radio range, position will be determined using celestial MPP procedures.

Prerequisite. EON-350

Performance Standard. Per NFM, FLIP, FCG, AIRNAVMAN, and ICAO procedures.

EQN-352

8.0[6.0] R 1 KC-130 A (N)

Goal. Celestial navigator pre-qualification flight.

Requirement

- (1) Plan and execute an extended over-water mission.
- (2) Refine extended over-water techniques.

(3) Navigate along a predetermined course using a 30 minute fix-to-fix routine where celestial techniques are used to determine the aircraft's position within FLIP tolerances. All available navigation aids, excluding on board computer navigation systems, will be used to determine the aircraft's position.

Prerequisite. EON-351

Performance Standard. Per NFM, FLIP, FOG, AIRNAVMAN and ICAO procedures.

EON-353      8.0[6.0]      R E 1 KC-130 A (N)

Goal. Celestial navigator qualification flight.  
Evaluation required on initial EON-451 only.

Requirement

(1) Plan and execute an extended over-water mission.

(2) Refine extended over-water techniques.

(3) Navigate along a predetermined course using a 30 minute fix-to-fix routine where celestial techniques are used to determine the aircraft's position within FLIP tolerances. All available navigation aids, excluding on-board computer navigation systems, will be used to determine the aircraft's position.

(4) Successful completion of this training code will qualify the navigator for the "Celestial Qualified Navigator" designation.

Prerequisite. EON-352

Performance Standard. Per NFM, FLIP, FOG, AIRNAVMAN, and ICAG procedures.

5. Expeditionary Airfield/Temporary Landing Zone (EAF)/(TLZ)

a. Purpose. Refine the skills necessary to plan and navigate to unimproved TLZ's.

b. General

(1) TLZ-370 shall be accomplished in night VMO conditions in conjunction with a low level navigation mission to a TLZ.

(2) TLZ-371 shall be accomplished in day or night VMO.

c. Ground Training. The navigator shall review classes from the MAWTS-1 ASP on Temporary Landing Zone Operations prior to this stage.

d. Simulator Training (2 Flights 4.0 Hours)

SRADTLZ-370

2.0

WSTS

Goal. Refine the techniques required to assist the pilot in a self-contained approach.

Requirement. Demonstrate the ability to:

(1) Construct a self-contained approach plate.

(2) Fly a self-contained approach to a TLZ utilizing all available navigation aids with an emphasis on search RADAR techniques in conjunction with a RARFAC beacon.

(3) Under day VMC conditions, the navigator will not have access to visual navigation aids.

(4) The navigator will provide advisories to the pilots throughout the approach phase from initial descent to touchdown.

Performance Standard. Per TACMAN, MCCRESMAN, and MAWTS-1 ASP.

STLZ-371

2.0

WST S

Goal. Refine the planning and navigation considerations required to low level ingress to temporary landing zones equipped with minimum or no navigation aids.

Requirement. Demonstrate the ability to assist in the conduct of an approach to a TLZ under day or night VMC conditions utilizing all available navigation aids.

Prerequisite. LL-220 and LL-221.

Performance Standard. Per TACMAN, MAWTS-1 ASP, and MCCRESMAN.

e. Flight Training (2 Flights, 4.0 Hours)

RADTLZ-370

2.0[0.5]

1 KC-130 A N

Goal. Refine the techniques required to assist the pilot in a self-contained approach.

Requirement. Demonstrate the ability to:

(1) Construct a self-contained approach plate.

(2) Fly a self-contained approach to a TLZ utilizing all available navigation aids with an emphasis on search RADAR techniques in conjunction with a RABFAC beacon.

(3) Under day VMC conditions, the navigator will not have access to visual navigation aids.

(4) The navigator will provide advisories to the pilots throughout the approach phase from initial descent to touchdown.

Prerequisite. TLZ-270.



Performance Standard. Per TACMAN, MCCRESMAN, and MAWTS-1 ASP.

External Syllabus Support. Requires qualified initial terminal guidance teams equipped with RABFAC beacons.

TLZ-371 2.0[1.0] 1 KC-130 S (N)

Goal. Refine the planning and navigation considerations required to low level ingress to temporary landing zones equipped with minimum or no navigation aids.

Requirement. Demonstrate the ability to assist in the conduct of an approach to a TLZ under day or night VMC conditions utilizing all available navigation aids.

Prerequisite. LL-220 and TLZ-270.

Performance Standard. Per TACMAN, MAWTS-1 ASP, and MCCRESMAN.

External Syllabus Support. Requires qualified Initial Terminal Guidance personnel for assessing and marking landing zones.

#### 744. FULL-COMBAT QUALIFICATION TRAINING

##### 1. Aerial Refueling

###### a. Purpose

(1) Develop the necessary skills to perform the tasks required of the navigator/rendezvous controller on air refueling missions.

(2) Designate the navigator as a "Rendezvous Controller" after successful completion of AR-410.

###### b. General

(1) Flights shall be accomplished utilizing all navigation systems within an air refueling profile.

(2) A minimum of four successful rendezvous' shall be completed prior to designation as a rendezvous controller.

(3) Initial rendezvous training may be conducted with the same type aircraft (KC-130 to KC-130) for no more than 50 percent of the successful rendezvous'.

(4) Flights should be conducted within a multiplane profile.

(5) The navigator shall have demonstrated an ability to plan and execute extended air refueling missions including ALTRV and other coordination measures.

c. Ground Training. The navigator shall have completed the Central Altitude Reservation Indoctrination Course and shall receive lectures on Rendezvous Control Procedures prior to this stage.

d. Flight Training (1 Flight. 4.0 Hours)

AR-410                    4.0[2.01]                    1 KC-130    A    (N)

Goal. Plan and execute a fixed-wing or rotary-wing long range air refueling mission.

Requirement. Demonstrate the ability to successfully perform a rendezvous without assistance on a long range air refueling mission.

Prerequisite. AR-312.

Performance Standard. Per NFM, TACMAN, ARMAN, and SPEOMILOPSMAN.

External Syllabus Support. Fixed-wing or rotary-wing receivers required.

## 2. Low Altitude Tactics

a. Purpose. Introduce low altitude tactics, increase the navigator's knowledge/proficiency in low level navigation, and to familiarize him with the phenomena peculiar to flight at or near the comfort level.

### b. General

(1) Flights shall be accomplished in VMC.

(2) Flights will be flown in accordance with T&R Volume 1 altitude criteria.

(3) Low altitude flight currency restrictions contained within T&R Volume 1 do not apply to this crew position.

(4) Emphasis shall be placed on terrain following, time control to the destination, and crew coordination to minimize overtasking the pilot.

c. Ground Training. The navigator shall review the lectures on Low Level Navigation Techniques and Low Altitude Tactics (LAT) prior to this stage.

### d. Simulator Training (2 Flights. 2.0 Hours)

SLAT-430                    1.0                    WSTS

Goal. Familiarize the navigator with low altitude tactics, introducing comfort levels, and crew coordination duties.

Requirement. Demonstrate crew coordination during LAT flight.

Prerequisite. LL-220.

Performance Standard. Per TACMAN and T&R Manual, VOL 1.

SLAT-431                    1.0                    WSTS

Goal. Demonstrate the proficiency to plan and execute a LAT mission.

Requirement. Plan and navigate a LAT mission with a minimum of six check points using all available navigation aids.

Prerequisite. SLAT-430.

Performance Standard. Per TACMAN and T&R Manual, VOL 1.

e. Flight Training (2 Flights. 2.0 Hours)

LAT-430 1.0[0.51] 1 KC-130 A

Goal. Familiarize the navigator with low altitude tactics, introducing comfort levels, and crew coordination duties.

Requirement. Demonstrate crew coordination during LAT flight.

Prerequisite. LL-220.

Performance Standard. Per TACMAN and T&R Manual, VOL 1.

LAT-431 1.0[0.5] 1 KC-130 A

Goal. Demonstrate the proficiency to plan and execute a LAT mission.

Requirement. Plan and navigate a LAT mission with a minimum of six check points using all available navigation aids.

Prerequisite. LAT-430.

Performance Standard. Per TACMAN and T&R Manual, VOL 1.

3. Defensive Tactics (DEFTAC)

a. Purpose. Train the navigator in defensive tactics.

b. General

(1) Flights shall be accomplished in VMC.

(2) Flights will be flown in accordance with T&R Volume 1 altitude criteria.

(3) Low altitude flight currency restrictions contained within T&R Volume 1 do not apply to this crew position.

c. Ground Training. Prior to this flight phase the navigator shall receive the MAWTS-1 ASP Course on KC-130 Defensive Tactics (DEFTAC)

d. Flight Training (2 Flights. 3.0 Hours)

DEFTAC-432 1.5[1.0] 1 KC-130 A

Goal. Familiarize the navigator with the skills required to perform coordinated aircrew duties during defensive tactics against a single aggressor aircraft.

Requirement

(1) Demonstrate an understanding of KC-130 defensive maneuvers.

(2) During 1V1 DEFTAC, demonstrate the proper maneuver calls and crew coordination.

Prerequisite. LAT-431.

Performance Standard. Per MAWTS-1 ASP.

External Syllabus Support. Aggressor aircraft required.

DEFTAC-433 1.5[1.01] 1KC-130A

Goal. Refine the skills required to perform coordinated aircrew duties during defensive tactics against two or more aggressor aircraft.

Requirement

(1) Demonstrate an understanding of KC-130 defensive maneuvers.

(2) During 2V1 DEFTAC, demonstrate the proper maneuver calls and crew coordination.

Prerequisite. DEFTAC-432.

Performance Standard. Per MAWTS-1 ASP.

External Syllabus Support. Aggressor aircraft required.

#### 4. Aircraft Survivability Equipment (ASE)

a. Purpose. Train the navigator in the skills required to plan for and operate the KC-130 ASE suite in a tactical scenario in a permissive and restrictive threat environment.

##### b. General

(1) Aircraft shall have fully operational ASE suite.

(2) Appropriate chaff and decoy flares shall be loaded prior to each flight.

(3) Threat emitters and/or electronic warfare range must be available.

c. Ground Training. Navigator shall be introduced to the purpose of functioning and scheduling of threat emitters and electronic warfare ranges prior to the completion of this phase. Prior to inflight training, the navigator shall receive the MAWTS-1 ASP courses on:

(1) Soviet REC (S).

(2) Soviet LADS (S)

(3) Soviet Air to Air Missiles (Part I and II) (S).

(4) Non-Soviet Air to Air Missiles (Part I and II) (S)

(5) KC-130 Specific Threat Counter-tactics (S).

(6) KC-130 Defensive Tactics (DEFTAC) (S)

(7) Basic RADAR principles (U)

(8) AN/ALE-39 Chaff and Flare Dispenser (U)

- (9) AN/ALE-39 Programming (S).
- (10) AN/AAR-47 Missile Warning System (S).
- (11) AN/ALQ-157 Infrared Jammer (S).
- (12) AN/APR-39 RADAR Warning Receiver (S).
- (13) Soviet Tactical Surface To Air Threat SAMS/AAA (S).
- (14) Non-Soviet SAMS/ARA (S).

d. Simulator Training (2 Flights. 4.5 Hours)

SASE-460                      3.0                      WST      S

Goal. Introduce the basic in-flight operation of the ASE systems with emphasis on setup of the system for automatic and continuous defense.

Requirement. Plan and setup the ASE suite to defeat an unforeseen threat. Demonstrate the basic understanding of and ability to operate the system (specifically the ALE-39 programmer)1 and ALQ-157 IR jammer for automatic & continuous defense.

Performance Standard. Per MAWTS-1 ASP and MCCRESMAN.

d. Simulator Training (1 Flight, 1.5 Hours)

SASE-461                      1.5                      WST      S

Goal. Refine the utilization of the ASE suite to include use in a permissive tactical environment.

Requirement

(1) Demonstrate the ability to assess a threat scenario and plan for the proper setup & utilization of the complete ASE suite.

(2) Correctly identify & correlate threat symbology displayed on the APR-39.

(3) Demonstrate the proper response to displayed threats including use of expendables and recommended maneuvers.

Performance Standard. Per MAWTS-1 ASP and MCCRESMAN.

## e. Flight Training (3 Flights 4.5 Hours)

ASE-460 1.5[1.01] 1 KC-130 A

Goal. Introduce the basic In-flight operation of the ASE systems with emphasis on setup of the system for automatic and continuous defense.

Requirement. Plan and setup the ASE suite to defeat an unforeseen threat. Demonstrate the basic understanding of and ability to operate the system (specifically the ALE-39 programmer), and ALQ-157 IR jammer for automatic & continuous defense.

Prerequisite. OL-200.

Performance Standard. Per MAWTS-1 ASP and MCCRESMAN.

ASE-461 1.5[1.0] 1 KC-130 A (N)

Goal. Refine the utilization of the ASE suite to include use in a permissive tactical environment.

Requirement

(1) Demonstrate the ability to assess a threat scenario and plan for the proper setup & utilization of the complete ASE suite.

(2) correctly identify & correlate threat symbology displayed on the APR-39.

(3) Demonstrate the proper response to displayed threats including use of expendables and recommended maneuvers.

Prerequisite. ASE-460.

Performance Standard. Per MAWTS-1 ASP and MCCRESMAN.

External Syllabus Support. Qualified ordnance personnel, ordnance and threat emitters.

ASE-462 1.5[1.01] 1KC-130A

Goal. Introduce effective tactical use of expendables to counter a simulated threat provided by an EW range.

Requirement

(1) Correctly plan for and setup ASE suite against specific threat provided by an EW range.

(2) Demonstrate the capability to use ASE to degrade and/or defeat the threat.

Prerequisite. ASE-461.

Performance Standard. Per MAWTS-1 ASP, and MCCRESMAN.

External Syllabus Support. Requires qualified ordnance personnell ordnance and threat emitter support.

## 750. IUT FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

### 1. Navigation Instructor Check (NAVI)

a. Purpose. Standardize the instructor navigator's procedures for the KC-130 aircraft.

#### b. General

(1) Emphasis shall be placed on standardization and the ability of the navigator to instruct navigation procedures.

(2) Ability to instruct all phases of flight training shall be evaluated in which the navigator has previously demonstrated proficiency.

(3) A member of the Standardization Board shall evaluate this flight.

c. Ground Training. Navigation shall complete MAWTS-1 Instructor Training Series ASP prior to this stage.

#### d. Flight Training (1 Flight. 3.0 Hours)

NAVI-590                      3.0                      E 1 KC-130 A (N)

Goal. Standardize instructional techniques.

Requirement. Use standard navigation instructional techniques with all available navigation aids.

### 2. Night Systems Instructor (NSI)

a. Purpose. Qualify the Navigator as a Night Systems Instructor.

#### b. General

(1) The T&R Vol I and the MAWTS-1 Course Catalog are germane. Designation as night Systems qualified is a prerequisite.

(2) A MAWTS-1 instructor shall provide certification for this qualification.

c. Ground Training. The navigator shall review instructions from the MAWTS-1 ASP on Night Vision Device Usage.

#### d. Flight Training. NVGI-591. See the MAWTS-1 Course Catalog.

NSI-591                                      PER MAWTS-1 Course of Instruction

Goal. Standardize instructional techniques.

Requirement. Use standard night systems instructional techniques.

Prerequisite. NAVI-590 and all NVG 600 series training codes.

Performance Standard. Per MAWTS-1 course of instruction.

## 3. Weapons Tactics Instructor (WTI)

- a. Purpose. Provide squadrons with Weapons and Tactics Instructors.
- b. General. Successfully complete the WTI course of instruction.
- c. Ground Training. The navigator shall receive all instructions in accordance with the MAWTS-1 course of instruction.
- d. Flight Training. All flights are PER MAWTS-1 course of instruction.

WTI-592

## PER MAWTS-1 Course of Instruction

Goal. Develop Weapons and Tactics Instructors for the squadron.

Requirement. Use standard Weapons and Tactics instructional techniques as taught at the MAWTS-1 WTI course.

Prerequisite. PER MAWTS-1 Operations Guide.

Performance Standard. Per MAWTS-1 course of instruction.

## 4. Weapons Tactics Aircrew Instructor (WTACI)

a. Purpose. Certify the KC-130 Navigator Instructor as a Weapons and Tactics Aircrew Instructor capable of conducting ground and airborne instruction in the KC-130 Navigators Combat Qualified and Full Combat Qualified flight syllabus as outlined in MCO P3500.15.

b. General. The KC-130 WTACI Course is developed by MAWTS-1 and is conducted in conjunction with the WTI Course. Upon graduation the candidate will be certified by MAWTS-1 as a WTACI Navigator. WTACI designation can be made by the squadron Commanding Officer.

c. Ground Training. The navigator shall receive all instruction in accordance with the MAWTS-1 course of instruction.

d. Flight Training. All flights are in accordance with MAWTS-1 course of instruction.

WTACI-593

## PER MAWTS-1 Course of Instruction

Goal. Develop Weapons and Tactics Aircrew Instructors for the squadron.

Requirement. Use standard WTACI instruction techniques as taught at the MAWTS-1 WTACI course.

Prerequisite. PER MAWTS-1 Operations Guide.

Performance Standard. Per MAWTS-1 course of instruction.



## 5. NATOPS Instructor Check (NTPSI)

- a. Purpose. Standardize NATOPS instructor procedures.
- b. General

(1) Emphasis shall be placed on standardization of instruction procedures.

(2) An assistant NATOPS evaluator will be evaluated by instructing the senior squadron NATOPS evaluator.

(3) The senior NATOPS evaluator will be evaluated by instructing the group NATOPS evaluator.

- c. Flight Training (1 Flight. 3.0 Hours)

NTPSI-594            3.0                    E 1 KC-130 A (N)

Goal. Standardize NATOPS Instructor procedures.

Requirement. Evaluate an assistant NATOPS instructor using standardized procedures.

Prerequisite. NAVI-590.

Performance Standard. Per NATOPS and all current flight publications.

## 6. Advanced Airlift Tactics Course

a. Purpose. Develop the navigator's skills in KC-130 tactical procedures and aerial delivery techniques.

b. General. Training conducted at St. Joseph, MO.

c. Ground Training. Training conducted at St. Joseph, MO.

d. Flight Training. Training conducted at St. Joseph, MO.

## 751. SPECIAL TRAINING

## 1. Night Systems Qualification (NSQ)

a. Purpose. Introduce and qualify the navigator in Night Systems (NS) operations, or maintain proficiency for NSQ navigators, and review concepts associated with night visual phenomena.

b. General.

(1) The NSQ training syllabus (NVG-601 through NVG-606) is intended to be flown with a squadron NSI. After the qualification flight (NVG-606), the navigator may be designated as night systems qualified by the Squadron Commanding Officer.

(2) Navigators receiving NVG training in the KC-130 shall be qualified in the respective 200, 300, or 400 series equivalent unaided sortie code/mission.

(3) Upon initial completion of a NVG sortie, the NSQ navigator may refly that sortie without a navigator NSI, provided all prerequisites are met.

(4) All NVG sorties (NVG-601 through NVG-670) may be flown by a navigator who is not NSQ, provided that an NSI is providing appropriate instruction and all prerequisites are met.

(5) A total of 5 hours in low light level conditions shall be accumulated prior to flying NVG-606 and qualification as NSQ.

(6) All ground training shall be completed prior to flight training.

(7) Training rules, as identified in T&R Vol. 1, Chapter 9 are germane.

(8) Minimum training altitudes shall be in accordance with T&R Vol. 1.

c. Instructor Requirements. Shall be in accordance with MCO P3500.14. A designated Navigator Night Systems Instructor (NSI) is required to instruct all flights prior to NSQ qualification. An NSI is also required for all NVG "E" coded sorties.

d. Ground Training (6.0 Hours)

(1) NITE Lab.

(2) KC-130 NVG Use.

(3) MAWTS-1 KC-130 Night Systems exam.

e. Simulator Training (2 periods, 2.0 Hours). Every attempt will be made to complete simulator sorties if a night vision devices (NVG) compatible CFT/WST is available.

SNVD-601            1.0            OFT/WST    A    N

Goal. Introduce the navigator to the use and wear of NVG's. Emphasis will be on cockpit preflight, inflight donning of the NVG, and aircrew coordination. Familiarize navigator with ground taxi, takeoff, and landing procedures. If able, the navigator should be exposed to various light levels throughout the training period.

Requirement. Brief and fly local area familiarization utilizing NVG's.

Performance Standard. Per the NFM and TACMAN.

SNVD-602            1.0            OFTIWST    A    N

Goal. Review and practice SNVG-601. Introduce low level navigation procedures utilizing NVG's. Emphasis on point to point navigation and aircrew coordination. If able, the navigator should be exposed to various light levels throughout the training period.

Requirement. Brief and fly local area FAM/LLNAV sorties utilizing NVG1s. Minimum altitude will be 500 ft AGL and a minimum of 6 checkpoints.

Performance Standard. Per the NFM and TACMAN.

f. Flight Training (6 Flights 9.0 Hours)

NVG-601 1.5 1 KC-130 A N

Goal. Introduce the navigator to KC-130 Night Systems and the use of NVG's in the KC-130. Emphasis will be on pre-flight, donning of the NVG's, taxi procedures, aborts, takeoffs, cockpit orientation at altitude, landings, aircraft ground reversing operations, and NVG aircrew coordination.

Requirement. High light level conditions. Navigator's initial familiarization flight with NVG's; flown as an observation flight and not as a duty navigator.

Prerequisite. OL-200.

NVG-602 1.5 R 1 KC-130 A N

Goal. Introduce the navigator to aerial refueling operations, either fixed-wing or rotary-wing, utilizing NVG's with specific emphasis on aircrew coordination, rendezvous and refueling procedures, to include EMCON and general training rules.

Requirement

(1) High or low light level conditions.

(2) Conduct a rendezvous with fixed-wing or rotary-wing receivers and perform refueling.

(3) Rendezvous and refueling altitudes shall be in accordance with T&R Manual, Volume 1 and the NATOPS Air Refueling Manual.

(4) Use of EMCON procedures is optional.

Prerequisite. AR-210, AR-212 and NVG-601.

Performance Standard. Per the NFM, TACMAN and the AR manual.

NVG-603 1.5 R 1 KC-130 A N

Goal. Introduce the navigator to low level operations with emphasis on point to point navigation (utilizing all navigational aids, i.e, GPS, INS and Radar), crew coordination, and cockpit voice procedures.

Requirement

(1) High light level conditions for initial qualification only.

(2) Brief and fly a night low level navigation route of at least 6 checkpoints utilizing NVG's.

Prerequisite. RADLL-320 and NVG-601.

Performance Standard. Per the NFM and TACMAN.

NVG-604

1.5 R 1 KC-130 A N

Goal. Introduce the navigator to aerial delivery operations utilizing NVG's. Emphasis should be placed various DZ marking procedures, visual acquisition of the DZ, and aircrew coordination.

Requirement

- (1) High or low light level conditions.
- (2) Brief and fly an aerial delivery mission either, CDS, heavy equipment, or personnel static line.
- (3) Runs from the initial point to the drop zone may be repeated for aircrew proficiency based on aircrew experience levels.

Prerequisite. AD-340, AD-341 and NVG-601.

External Support. Use of the air delivery platoon and MATOS Mobile Team assets are highly recommended for load prep, DZ set-up/control and terminal area guidance using the PPN-19 (RABFAC beacon), IR strobes and lights.

Performance Standard. Per the NFM and the TACMAN.

NVG-605

1.5 1 KC-130 A N

Goal. Introduce the navigator to planning and navigational considerations required to ingress to an improved or unimproved temporary landing zones equipped with minimum or no navigational aids utilizing NVG's. Emphasis shall be on landing area assessment, self contained approach procedures and aircrew coordination during the take-off and landing phases of flight utilizing NUG's.

Requirement

- (1) High light level conditions.
- (2) Construct a self contained approach plate.
- (3) Brief and fly a night self contained approach, providing appropriate advisories throughout the approach phase.
- (4) The navigator shall demonstrate the ability to assist in the plan and conduct of a self contained approach with appropriate advisories to temporary landing zones equipped with minimum or no navigational aids.

Prerequisite. TLZ-370 and RADLL-320.

Performance Standard. As per the NFM and the TACMAN.

NVG-606

1.5

R.E 1 KC-130 A N

Goal. Navigator night systems qualification flight. The navigator will demonstrate the required skills to fly a mission combined of low level ingress and subsequent TLZ/EAF, aerial deliveries or aerial refueling missions and/or conduct self-contained approaches to full stop landings while utilizing NVG' 5.

Requirement

- (1) High or low light level conditions.
- (2) The navigator to be qualified shall plan, brief, fly, and debrief an NVG sortie with a squadron NSI as the evaluator.
- (3) The navigator will demonstrate an understanding of Night Systems operations, an understanding of Night Systems training rules, and the ability to conduct an NVG sortie.
- (4) Construct a self contained approach plate.
- (5) Brief and fly a night low level navigation route of at least 6 checkpoints to a TLZ, AD, or AR track utilizing NVG's.
- (6) Brief and fly a night self contained approach, providing appropriate advisories throughout the approach phase.

Prerequisite. NVG-600, NVG-601, NVG-602, NVG-603, NVG-604, NVG-605 and a total of at least five hours of NVG low light level time.

Performance Standard. As per the NFM and the TACMAN.

2. Advanced Night Systems qualification

a. Purpose. Develop and refine Night Systems (NS) operations, or maintain proficiency for NSQ navigators, and review concepts associated with night visual phenomena.

b. General. All general, instructor, and ground training requirements in the basic NSQ section apply.

c. Flight Training (5 Flights. 7.5 Hours)

NVG-610

1.5

R 1 KC-130 A N

Goal. Refine planning and navigational considerations Required to perform aerial refueling on a low level route. Emphasis shall be on use of on board computer navigation systems, tactical checklist procedures, arriving at the ARCP at the ARCT, night systems low level techniques, and aircrew coordination.

Requirement

- (1) High or low light level conditions.
- (2) Brief and fly a night low level navigation route of at least 6 checkpoints utilizing NVG's.

(3) Rendezvous with and refuel fixed-wing or rotary-wing receivers in a low level tactical environment.

Prerequisite. AR-311, NVG-602 and NVG-603.

Performance Standard. Per the NFM, AR Manual and TACMAN.

NVG-630

1.5 R 1 KC-130 A N

Goal. Introduce LAT procedures while utilizing NVG's. Emphasis shall be on use of tactical checklist procedures, low altitude tactics, and aircrew coordination.

Requirement

(1) High or low light level conditions.

(2) Introduce flying at comfort level, terrain masking, ridgeline crossing, lookout doctrine, break turns, hard turns, and climb to cope while utilizing NVG's.

(3) Area to be used for LAT training should be one that affords the opportunity to perform LAT maneuvering, e.g., ridges, valleys, open areas and easily identifiable terrain features.

Prerequisite. LAT-431 and NVG-601.

Performance Standard. Per the NFM and TACMAN.

NVG-640

1.5 R 1 KC-130 A N

Goal. Refine planning and navigational considerations required to low level ingress to an aerial delivery utilizing NVG's. Emphasis shall be placed on use of on board computer navigation systems, tactical checklist procedures and aircrew coordination.

Requirement

(1) High or low light level conditions.

(2) Brief and fly a night low level navigation route of at least 6 checkpoints to an aerial delivery mission (CDS, heavy equipment, or personnel static line), utilizing NVG's.

(3) Runs from the initial point to the drop zone may be repeated for aircrew proficiency based on aircrew experience levels.

Prerequisite. AD-340, AD-341, NVG-603 and NVG-604.

External Support. Use of the air delivery platoon and MATCS Mobile Team assets are highly recommended for load prep, DZ set-up/control and terminal area guidance using the PPN-19 (RABFAC beacon), IR strobes and lights.

Performance Standard. Per the NFM and the TACMAN.

NVG-660

1.5

R 1 KC-130 A N

Goal. Refine the use of the ASE suite while utilizing NVG's. Emphasis shall be on use of tactical checklist procedures, threat identification, defensive maneuvering, and aircrew coordination.

Requirement

- (1) High or low light level conditions.
- (2) Demonstrate the ability to access a threat scenario and plan for proper setup and utilization of the ASE suite.
- (3) Correctly identify and correlate threat symbology displayed on the APR-39.
- (4) Demonstrate the proper response to displayed threat including use of expendables and recommended maneuver's.

Prerequisite. ASE-462 and NVG-601.

Performance Standard. Per the NFM and TACMAN.

NVG-670

1.5

R 1 KC-130 A N

Goal. Refine planning and navigational considerations required to low level ingress to an improved or unimproved TLZ equipped with minimum or no navigational aids utilizing NVG's. Emphasis shall be on use of on board computer navigation systems, tactical checklist procedures, landing area assessment, self contained approach procedures and aircrew coordination.

Requirement

- (1) High or low light level conditions.
- (2) Construct a self contained approach plate.
- (3) Brief and fly a night low level navigation route of at least 6 checkpoints to a TLZ utilizing NVG's.
- (4) Brief and fly a night self contained approach, providing appropriate advisories throughout the approach phase.

Prerequisite. NVG-603 and NVG-605.

Performance Standard. Per the NFM and the TACMAN.

3. Jet Assisted Take-Off (JATO)

- a. Purpose. Familiarize the navigator with JATO procedures and crew coordination duties.
- b. General. Emphasis will be placed on safety and timing procedures.
- c. Ground Training. The navigator shall receive lectures on JATO Operations prior to this stage.

## d. Flight Training (1 Flight, 0.5 Hours)

JATO-680                      0.5                      1 KC-130    A

Goal. Familiarize the navigator in all the duties involving TLZ, EAF, and short field operations that would require the use of JATO.

Requirement. Demonstrate the ability to assist in the planning for either minimum ground roll or obstacle takeoff and conduct time warning countdown during JATO burn.

Performance Standard. Per NFM and TACMAN.

Prerequisite. OL-200

External Support. Qualified ordnance personnel and MK-6 JATO bottles.

## 4. Search and Rescue (SAR)

a. Purpose. Familiarize the navigator with SAR operations and procedures.

b. General. Emphasis will be placed on search patterns and techniques.

c. Ground Training. The navigator shall receive lectures on SAR Operations prior to this stage.

## d. Simulator Training (1 Flight 3.0 Hours)

SSAR-681                      3.0                      WSTS

Goal. Familiarize the navigator with SAR operations and procedures.

Requirement. Demonstrate the ability to plan, brief, debrief, and execute a preplanned SAR mission.

Performance Standard. Per NFM and TACMAN.

## e. Flight Training (1 Flight. 3.0 Hours)

SAR-681                      3.0                      1 KC-130    A

Goal. Familiarize the navigator with SAR operations and procedures.

Requirement. Demonstrate the ability to plan, brief, debrief and execute a preplanned SAR mission.

Prequisite. OL-200.

Performance Standard. Per NFM and TACMAN.



## 5. Aerial Navigator Annual Requalification Check

- a. Purpose. Conduct annual NATOPS requalification.
- b. General. A NATOPS/Assistant NATOPS Instructor shall evaluate this flight.
- c. Ground Training. Navigator must successfully pass the open and closed book examinations per NATOPS prior to the flight.
- d. Flight Training (1 Flight, 3.0 Hours)

NAVCK-690      8.0[3.01]      E 1 KC-130 A (N)

Goal. Annual NATOPS requalification check.

Requirement. The navigator will be tested on all previous instruction, knowledge of emergency procedures, and proper operation of all navigation equipment to include over-water celestial navigation techniques.

Prerequisite. OL-200.

Performance Standard. NFM, FLIP, TACMAN, MAWTS-1 ASP, FCG, and AIRNAVMAN.

## 760. EXPENDABLE ORDNANCE REQUIREMENTS

ORDNANCE	100 Series	200 Series	300 Series	400 Series	Refresher	ANNUAL
DECOY FLARES				40		40
CHAFF				24		24
LUU-2			32			32
MK-6 JATO Units						16
						7-49

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130			MOS: 7372/7380		CREW POSITION: NAVIGATOR			
TRAINING			REFLY					
<u>STAGE</u>	<u>CODE</u>	<u>HRS</u>	<u>INTERVAL</u>	<u>CRP</u>	<u>T</u>	<u>C</u>	<u>R</u>	<u>E REMARKS</u>
COMBAT CAPABLE TRAINING								
FAN	100	2.0	*	1.0				
	101	2.0	*	1.0				
	102	2.0	*	1.0				
	103	2.0	*	1.0				
	104	2.0	*	1.0			x	
	105	2.0	*	1.0			x	x
AR	110	2.0	*	1.0				
	111	2.0	*	1.0				
	112	2.0	*	1.0				
LL	120	1.0	*	1.0				
	121	1.0	*	1.0				
	122	1.0	*	1.0				
AD	140	1.0	*	1.0				
EON	150	8.0	*	1.0				
	151	8.0	*	1.0				
	152	8.0	*	1.0				
EON	153	8.0	*	2.0				(N)
	154	8.0	*	2.0				(N)
	155	8.0	*	2.0				(N)
	156	8.0	*	2.0				(N)
	157	8.0	*	2.0			x	(N)
	158	8.0	*	2.0			x	(N)
NAVCK	190	8.0	*	7.0			x	x (N)
COMBAT READY TRAINING								
OL	200	4.0	12	1.0				(N)
AR	210	3.0[1.5]	12	1.0				(N)
	211	3.0[1.5]	12	1.0				
	212	3.0[1.5]	12	1.0				N
LL	220	2.0	12	1.0				
	221	2.0	12	1.0				N
AD	240	1.0	12	1.0				
	241	1.0	12	1.0				
	242	1.0	12	1.0				
EON	250	8.0	6	1.0				(N)
	251	8.0	6	1.0				(N)
	252	8.0	6	1.0				(N)
	253	8.0	6	2.0				x (N)

Figure 7-1.--MOS 7372-7380 Refly Interval, Combat Readiness Percentage.

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7372/7380		CREW POSITION: NAVIGATOR	
TRAINING		REFLY			
STAGE	CODE	HRS	INTERVAL	CRP	T C R E REMARKS
TLZ	270	2.0	12	0.5	(N)
RGR	271	1.0[0.0]	12	0.5	(N)
COMBAT QUALIFICATION TRAINING					
AR	310	2.0[1.5]	12	1.5	
	311	2.0[1.5]	12	1.5	N
	312	2.0[1.5]	12	1.5	(N)
RADLL	320	2.0	12	1.5	(N)
AD	340	1.0	6	1.0	N
	341	1.0	6	1.0	N
	342	1.0	6	1.0	(N)
	343	1.0	6	1.0	(N)
	344	2.0	6	1.0	(N)
EON	350	8.0	6	1.5	(N)
	351	8.0	6	1.5	(N)
	352	8.0	6	2.0	(N)
	353	8.0	6	2.0	x (N)
TLZ	370	2.0	6	1.0	(N)
	371	2.0	12	1.0	(N)
FULL-COMBAT QUALIFICATION TRAINING					
AR	410	4.0[2.01]	12	0.6	(N)
LAT	430	1.0[0.5]	12	0.6	
	431	1.0(0.5)	6	0.6	
DEFTAC	432	1.5	12	0.7	
	433	1.5	12	0.7	
ASE	460	1.5	12	0.6	(N)
	461	1.5	12	0.6	(N)
	462	1.5	12	0.6	(N)
INSTRUCTOR TRAINING					
NAVI	590	3.0	12	0.0	x (N)
NSI	591PER MAWTS-1 Course of Instruction				N
WTI	592	PER MAWTS-1 Course of Instruction			
WTACI	593	PER MAWTS-1 Course of Instruction			
NTPSI	594	3.0	12	0.0	x (N)

Figure 7-2.--MOS 7372/7380 Refly Interval, Combat Readiness Percentage-Continued.

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 7372/7380			CREW POSITION:				NAVIGATOR
TRAINING		REFLY							
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
SPECIAL TRAINING									
NVG	601	1.5	12	0.0					N
	602	1.5	12	0.0			X		N
	603	1.5	12	0.0			X		N
	604	1.5	6	0.0			X		N
	605	1.5	12	0.0			X		N
	606	1.5	12	0.0			X	X	N
	610	1.5	12	0.0			X		N
	630	1.5	12	0.0			X		N
	640	1.5	6	0.0			X		N
	660	1.5	12	0.0			X		N
	670	1.5	12	0.0			X		N
JATO	680	0.5	12	0.0					
SAR	681	3.0	12	0.0					
NAVCK	690	8.0[3.0]	12	0.0				x	(N)

Figure 7-2.--MOS 7372-7380 Refly Interval, Combat Readiness Percentage--  
Continued.

## MOS 7372/7380 FLIGHT UPDATE CHAINING

FLIGHT	<u>FLIGHTS</u> <u>UPDATED</u>
200	
210	200
211	200
212	211, 200
220	200
221	220, 200
240	200
241	200
242	200
250	200
251	250, 200
252	251, 250, 200
253	252, 251, 250, 200
270	200
271	200
310	220, 200
311	310, 221, 220, 200
312	200
320	221, 220, 200
340	240, 200
341	242, 241, 200
342	240, 200
343	200
344	200
350	253, 252, 251, 250, 200
351	350, 253, 252, 251, 250, 200
352	351, 350, 253, 252, 251, 250, 200
353	352, 351, 350, 253, 252, 251, 250, 200
370	270, 200
371	270, 220, 200
410	312, 200
430	220, 200
431	430, 220, 200
432	200
433	432, 200
460	200
461	460, 200
462	461, 460, 200
590	200
591	200
592	200
593	200
594	200

Figure 7-3.--MOS 7372/7380 Flight Update Chaining.

T&R MANUAL VOLUME 2

MOS 7372/7380 FLIGHT UPDATE CHAINING

FLIGHT	<u>FLIGHTS</u> <u>UPDATED</u>
601	200
602	601,200
603	601,320,200
604	601,200
605	601,200
606	605,604,603,602,601,200
610	603,602,200
630	601,430,200
640	604,603,200
660	601,462,200
670	605,603,371,200
680	200
681	200
690	200

Figure 7-3.--MOS 7372/7380 Flight Update Chaining--Continued

T&R MANUAL VOLUME 2

CHAPTER 8

KC-130 FLIGHT ENGINEER

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\* \* NOTE \* \*

Aircrew coordination shall be briefed on all flights and/or events.



# T&R MANUAL VOLUME 2

## MARINE AERIAL REFUELING SQUADRON - KC-130 UNIT TEMPLATE

### NOTE

The capabilities defined and described in the core capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgement of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long term health and readiness of his unit while staying within his resource constraints.

#### 1. TABLE OF ORGANIZATION

PAA-12 A/C: 26 TPC/16 T2P or T3P/23 NAV/25 F ENG/24 LOADM/24 F MECH

#### 2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situation dependent.

b. A core capable squadron is able to sortie two divisions (-) of mission capable aerial refueling aircraft and within four hours of landing, sortie two more sections or sortie three sections of mission capable assault support aircraft and within four hours of landing, sortie two more sections. Perform the above from either a main base location or appropriate sized expeditionary airfield. All aircraft are capable of aerial and rapid ground refueling, assault support and two platforms being DE/IRCM equipped.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew Who are at least 75% complete in each listed core skill.

CORE SKILLS	CREWS	REMARKS
RW/FW AR	12	
RGR	8	
TLZ/EAF	8	
AD	6	
FORM	12	
LONG RANGE NAV	12	
LOW LEVEL	6	

## 4. REQUIRED CORE SKILLS AND SORTIES

**REQUIRED CORE SKILLS AND SORTIES**

	RW/PW AP	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL
1st TOUR	4	1	1	1	2	1	2
T&R CODES	210,211 212,213	273	270	240	230, 231	250	220, 221

5. REQUIRED TO MAINTAIN CORE SKILLS. For each twelve month period achieving competency, a Flight Engineer would be required to fly the following number of sorties in each skill area to maintain that competency.

	RW/PW AP	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL
AIRCREW	4	1	1	1	2	1	2



## 800. PROGRAMS OF INSTRUCTION (P01) FOR BASIC FLIGHT ENGINEER

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-11	KC-130 Flight Engineer Ground	FREST
12-15	KC-130 Flight Simulator	Training Squadron
16-35	Combat Capable Training	Training Squadron
36-40	Combat Ready Training	Tactical Squadron
41-46	Combat Qualification Training	Tactical Squadron
47-53	Full-Combat Qualification	Tactical Squadron

## 801. POI FOR REFRESHER FLIGHT ENGINEER

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-3	KC-130 Flight Simulator	Training Squadron
4-12	Combat Capable Training	Training Squadron

## 802. POI FOR CONVERSION FLIGHT ENGINEER (KC-130 F-R-T)

<u>WEEKS</u>	<u>COURSES/PHASE</u>	<u>ACTIVITY</u>
1	Combat Capable Training	Tactical Squadron

## 803. POI FOR FLEET READINESS SQUADRON (FRS) INSTRUCTOR UNDER TRAINING (IUT)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Standardization Training	Training Squadron
2	Flight Training	Training Squadron

## 804. POI FOR FLIGHT ENGINEER INSTRUCTOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Standardization Training	Tactical Squadron

## 805. P01 FOR NATOPS EVALUATOR/ASSISTANT NATOPS INSTRUCTOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Standardization Training	Trng/Tact Squadron

## 806. P01 FOR NIGHT SYSTEMS INSTRUCTOR

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Standardization Training	Tactical Squadron

## 807. POI FOR WEAPONS AND TACTICS AIRCREW INSTRUCTOR (WTACI)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-7	Advanced Tactics Training	MAWTS-1

810. GROUND TRAINING. Follow-on maintenance training will be conducted at the squadron level, and other schools that are skill related per MCO 1200.7.

## 811. COURSES OF INSTRUCTION

<u>COURSE / PHASE</u>	<u>ACTIVITY</u>
Naval Aircrew Candidate Course	NAS Pensacola, FL
KC-130 Flight Engineer Ground Maintenance Course	FREST
KC-130 Flight Engineer Ground Simulator Course	Training Squadron
KC-130 Flight Simulator Course	Training Squadron
Weapons and Tactics Course	MAWTS-1 Yuma, AZ
Advanced Airlift Tactics Training Course (AATTC)	St. Joseph, MO
Survival, Evasion, Resistance and Escape (SERE)	NAS Brunswick, ME or
	NAS North Island, CA

## 812. SQUADRON LEVEL TRAINING

Aerial Refueling  
 Low Levels  
 Formation  
 Aerial Delivery  
 Overwater ICAO  
 Aircraft Survivability Equipment (ASE)  
 Temporary Landing Zones  
 Rapid Ground Refueling  
 Functional Checkflights  
 Low Level Refueling  
 Formation Refueling  
 Low Altitude Tactics  
 Aerial Delivery  
 Defensive Tactics (DEFTAC)  
 Temporary Landing Zones Unimproved  
 Rapid Ground Refueling  
 Aerial Delivery (Flares)  
 Assisted Take-off (ATO)  
 Instructor Training  
 Nuclear Weapons Transportation Training  
 Night Systems Training

## 820. FLIGHT TRAINING FOR BASIC FLIGHT ENGINEER

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Familiarization	8	40.0	8.0
System Review	13	50.0	15.5
Intermediate Progress Evaluation	1	4.0	5.0
Functional Check Flight/Maint Gnd Run	8	25.0	16.0
Mission Familiarization	7	28.0	10.5
Flight Engineer Evaluation (FE-2)	1	8.0	5.0
	38	155.0	60.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Flight Engineer Proficiency	2	4.0	2.0
Air Refueling	4	16.0	4.0
Low Level	2	5.0	2.0
Formation	2	6.0	2.0
Air Delivery	1	3.0	1.0
Over Water ICAG	1	8.0	1.0
Temporary Landing Zone	1	3.0	1.0
Rapid Ground Refueling	1	2.0	1.0
Functional Check Flight	1	2.0	1.0
Combat Ready Evaluation	1	8.0	0.0
	16	57.0	15.0

## 3. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Level Aerial Refueling	4	12.0	4.0
Overland/Water Form Aerial Refueling	2	16.0	4.0
Aerial Delivery	2	6.0	3.0
ASE	1	2.0	1.0
Temporary Landing Zone	2	4.0	4.0
Rapid Ground Refueling	1	2.0	2.0
NATOPS Check	1	8.0	2.0
	13	50.0	20.0

## 4. Full Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Altitude Tactics/Formation	3	7.0	3.0
DEFTAC	3	6.0	2.0
	6	13.0	5.0
TOTAL	73	275	100.0

## 821. REFRESHER FLIGHT ENGINEER

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization	6	32.0
Review	3	10.0
Ground Run/Functional Check Flight (FCF)	2	5.0
Mission Familiarization	6	24.0
NATOPS Evaluation	1	8.0
	18	79.0

## 822. CONVERSION FLIGHT ENGINEER

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Systems Review	6	12.0

## 823. FRS INSTRUCTOR UNDER TRAINING (IUT)

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization	5	20.0
Standardization	1	8.0
	6	28.0

## 824. SPECIAL DESIGNATIONS

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Systems and Syllabus Instructor	1	3.0
NATOPS evaluator/assistant NATOPS Instructor	1	3.0
Night Systems Instructor	1	3.0
Weapons and Tactics Aircrew Instructor	1	3.0

## 830. SIMULATOR TRAINING

<u>STAGE</u>	<u>PERIODS</u>	<u>HOURS</u>
Familiarization	15	60.0
Intermediate Progress Evaluation	1	4.0
Ground Maintenance Run/FCF	4	14.0
Flight Engineer Evaluation	1	4.0
Aerial Refueling	1	2.0
Low Level	1	2.0
Temporary Landing Zones	1	2.0
Temporary Landing Zones Unimproved	1	4.0
Instructor Under Training		20.0
	30	112.0

## 840. FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

1. Purpose. Familiarize the student flight engineer with his responsibilities and duties in the correct use of aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for system malfunctions, aircraft limitations, and performance data.

2. General

a. One hour of formal classroom training is required for 1 hour of flight simulator training. Refresher flight engineers need only complete syllabus periods annotated with an "R". Aircraft utilization authorized if the OFT is not available.

b. Upon completion of simulator training, the student flight engineer will be proficient and have demonstrated a thorough working knowledge of all aircraft systems, aircraft checklists, crew coordination, diagnosis of airborne malfunctions, and remedial actions that can be accomplished while airborne.

c. The flight syllabus training will familiarize the student flight engineer with:

(1) Correct preflight/postflight turnaround and daily inspections per current instructions.

(2) Responsibilities/duties in the operation of all aircraft systems applicable by NATOPS.

d. This portion of training deals with actual flight operations. The student flight engineer must possess and display a thorough working knowledge of all aircraft systems prior to the start of flight training.

e. Refresher flight engineer need only complete codes marked with an "R."

f. All events require the student flight engineer to compile and complete an aircraft "takeoff and landing data" card (TOLD) using the applicable NATOPS manual.

g. The student flight engineer will occupy the flight engineer's seat in all stages of the flight syllabus under the direct supervision of the instructor flight engineer.

h. Conversion will be conducted only by those squadrons that have significant changes or new model type. Conversion flight engineers need only complete codes marked with a "C."

3. Prerequisites

a. Qualified as a Flight Mechanic per chapter 10 of this Manual.

b. Completed KC-130 Flight Engineer ground course.

4. Aircrew Coordination. Aircrew coordination shall be briefed for all flights and/or events.

5. Simulator Training (15 Periods. 30.0 Hours)



SFAM-100 2.0 R IPT/CPT/OFT/WST S

Goal. Introduce the flight engineers responsibilities/duties, crew coordination, aircraft limitations, and use of expanded checklists.

Requirement. Introduce the student flight engineer to his responsibilities/duties, crew coordination, and aircraft limitations which are associated in the use of the expanded checklist from the cockpit checklist through the engine run-up checklist.

Performance Standard. Upon completion, the student flight engineer will be able to perform the expanded checklist from the cockpit checklist through engine run-up checklist observing all aircraft limitations, his responsibilities/duties, and crew coordination with assistance as necessary from the instructor flight engineer.

SFAM-101 2.0 R IPT/CPT/OFT/WST S

Goal. Introduce the flight engineer's responsibilities/duties, crew coordination, aircraft limitations, and use of expanded checklists.

Requirement. Review previous instruction as necessary. Introduce the student flight engineer to his responsibilities/duties, crew coordination, and aircraft limitations associated in the use of the expanded checklist from the before takeoff checklist through the secure checklist.

Performance Standard. Upon completion, the student flight engineer will be able to perform the expanded checklist from the cockpit checklist through the secure checklist observing all aircraft limitations, his responsibilities/duties, and crew coordination with assistance from the instructor flight engineer.

SFAM-102 2.0 R IPT/CPT/OFT/WST S

Goal. Introduce start malfunctions.

Requirement. Review previous instructions as necessary. Introduce the student flight engineer to start malfunctions.

Performance Standard. Upon completion, the student flight engineer will be able to identify start malfunctions and perform remedial actions with assistance as necessary from the instructor flight engineer.

SFAM-103 2.0 R IPT/CPT/OFTI WST S

Goal. Review ground emergency malfunctions.

Requirement. Review previous instruction as necessary. Introduce the student flight engineer to ground emergency malfunctions.

Performance Standard. Upon completion, the student flight engineer will be able to demonstrate responsibilities/duties, crew coordination, and perform all checklists observing applicable aircraft limitations with minor errors.

SFAM-104                      2.0                      E    IPT/CPT/OFT/WST    S

Goal. Evaluate the student flight engineer progress in cockpit procedures, start malfunctions, and ground emergency per current instructions.

Requirement. Evaluate the student flight engineer on responsibilities/duties, start malfunctions, ground emergency, crew coordination, and performance of all checklists per applicable NATOPS manuals while observing aircraft limitations.

Performance Standard. The student flight engineer will satisfactorily complete the flight engineer progress evaluation prior to progressing to the OFT stage of simulator training.

SFAM-105                      2.0                      R    IPT/CPT/OFTIWS    S

Goal. Introduce engine systems.

Requirement. Introduce the student flight engineer to the aircraft engine systems, malfunction, and emergency procedures.

Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft engine systems.

SFAM-106                      2.0                      R    IPT/CPT/OFT/WST    S

Goal. Introduce aircraft propeller systems, malfunctions, and emergency procedures.

Requirement. Student flight engineer will demonstrate knowledge of aircraft propeller systems. Introduce remedial actions and emergency procedures related to aircraft propeller systems.

Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft propeller systems.

SFAM-107                      2.0                      R    IPT/CPT/OFT/WST    S

Goal. Introduce aircraft electrical systems, malfunctions, and emergency procedures.

Requirement. Student flight engineer will demonstrate knowledge of aircraft electrical systems. Introduce remedial actions, emergency procedures related to aircraft electrical systems, and review previous instruction as necessary.

Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft electrical systems.

- SFAM-108            2.0            R   IPT/CPT/OFT/WST   S
- Goal.   Introduce aircraft bleed air, anti-ice, and deicing systems, malfunctions, and emergency procedures.
- Requirement.   Student flight engineer will demonstrate knowledge of aircraft bleed air, anti-ice, and deicing systems. Introduce remedial actions and emergency procedures related to aircraft bleed air, anti-ice, and deicing systems. Review previous instructions as necessary.
- performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft bleed air, anti-icing, and deicing systems.
- SFAM-109            2.0            R   IPT/CPT/OFT/WST   S
- Goal.   Introduce aircraft fuel systems, malfunctions, and emergency procedures.
- Requirement.   Student flight engineer will demonstrate knowledge of aircraft fuel systems. Introduce remedial actions and emergency procedures related to aircraft fuel systems. Review previous instruction as necessary.
- Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft fuel systems.
- SFAM-110            2.0            R   IPT/CPT/OFT/WST   S
- Goal.   Introduce aircraft hydraulic systems, malfunctions, and emergency procedures.
- Requirement.   Student flight engineer will demonstrate knowledge of aircraft hydraulic systems. Introduce remedial actions and emergency procedures related to aircraft hydraulic systems. Review previous instruction as necessary.
- Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft hydraulic systems.
- SFAM-111            2.0            R   IPT/CPT/OFT/WST   S
- Goal.   Introduce aircraft air conditioning/ pressurization systems, malfunctions, and emergency procedures.
- Requirement.   Student flight engineer will demonstrate knowledge of aircraft air conditioning and pressurization systems. Introduce remedial actions, emergency procedures related to aircraft air conditioning/pressurization systems, and review previous instruction as necessary.
- Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions, emergency procedures related to aircraft air conditioning/pressurization systems.

SFAM-112                      2.0                      R    IPTICPT/OFT/WST    S

Goal. Introduce aircraft comm/nav systems, voice procedures, malfunctions, and emergency procedures.

Requirement. Student flight engineer will demonstrate knowledge of aircraft comm/nav systems and voice procedures. Introduce remedial actions and emergency procedures related to aircraft comm/ nav systems. Review previous instruction as necessary.

Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft comm/nav systems.

SFAM-113                      4.0                      R    IPTICPT/OFT/WST    S

Goal. Introduce aircraft aerial refueling systems, malfunctions, and emergency procedures.

Requirement. Student flight engineer will demonstrate knowledge of aircraft aerial refueling systems. Introduce remedial actions and emergency procedures related to aircraft aerial refueling systems. Review previous instruction as necessary.

Performance Standard. Upon completion, the student flight engineer will be able to perform remedial actions and emergency procedures related to aircraft aerial refueling systems.

SFAM-114                      4.0                      E    IPT/CPT/OFT/WST    S

Goal. Evaluate simulator progress.

Requirement. The student will demonstrate the correct use of all aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for aircraft systems malfunctions, limitations, and aircraft performance.

Performance Standard. The student flight engineer will successfully complete a standard evaluation in the correct use of aircraft checklists, crew coordination, normal & emergency procedures, remedial actions for system malfunctions, and aircraft performance data.

## 841. COMBAT CAPABLE TRAINING

### 1. Familiarization

a. Purpose. Familiarize the student flight engineer with normal flight operations under various flight conditions.

b. General. Simulated/induced malfunctions should be held to a minimum during this stage.

c. Ground Training. The familiarization stage requires a minimum of 2 hours of ground instruction prior to each flight.

d. Flight Training (8 Flights 40.0 Hours)

FAM-115

4.0 R 1 KC-130 A

Goal. Familiarize the student flight engineer with correct turnaround inspection and normal flight operations per current instructions.

Requirement. The instructor flight engineer will instruct the student flight engineer on correct turnaround inspection procedures and normal flight operations per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with correct turnaround inspection, and normal flight operations per current instructions.

FAM-116

4.0 R 1 KC-130 A

Goal. Familiarize the student flight engineer with time management of turnaround inspection, computation of performance data, and normal flight operations.

Requirement. The instructor flight engineer will instruct the student flight engineer on time management of turnaround inspections, computation of performance data, and normal flight operations.

Performance Standard. Upon completion, the student flight engineer will be familiar with time management of turnaround inspections, computation of performance data, and normal flight operations.

FAM-117

4.0 R IPT/CPT/OFT/WST/KC-130 A N

Goal. Refine time management of turnaround inspection responsibilities and duties to include performance data computation, weight and Balance [Form 365-4](#) completion, and normal flight operations. During night time conditions.

Requirement. Instructor flight engineer will instruct the student flight engineer in time management of turnaround inspection responsibilities/duties to include performance data computations, weight and Balance [Form 365-4](#) completion, and normal flight operations. During night time conditions.

Performance Standard. Upon completion, the student flight engineer will be able to coordinate and perform aircraft turnaround inspection per current instructions utilizing proper time management to accomplish all required tasks, including correct performance data computation, accurate weight and Balance [Form 365-4](#) completion, and normal flight operations. During night time conditions.

FAM-118

4.0 R 1 KC-130 A

Goal. Familiarize the student flight engineer with hot and cold climate procedures per current instructions.

Requirement. Instructor flight engineer will instruct the student flight engineer on proper hot and cold climate procedures per current instructions.

Performance Standard. Upon completion, the student flight engineer will be able to perform his duties in hot or cold climates.

FAM-119 4.0 1 KC-130 A

Goal. Familiarize student flight engineer with simulated engine out procedures.

Requirement. Instructor pilot will demonstrate engine out procedures. Instructor flight engineer will supervise and evaluate the student flight engineer on normal procedures and touch & go procedures.

Performance Standard. Upon completion, student flight engineer will be familiar with engine out procedures.

FAN-120 4.0 1 KC-130 A

Goal. Familiarize student flight engineer with two engine out procedures.

Requirement. Instructor pilot will demonstrate two engine approaches and landings. Instructor flight engineer will supervise and evaluate the student flight engineer on normal procedures.

Performance Standard. Upon completion1 the student flight engineer will be familiar with two engine out procedures.

FAM-121 8.0 R 1 KC-130 A

Goal. Familiarize the student flight engineer on extended overwater flight operations to include mission planning, range prediction, range control, endurance, and use of engine/fuel logs.

Requirement. The instructor flight engineer will instruct the student flight engineer on extended overwater flight to include normal procedures, mission planning, use of aircraft performance data (range prediction, range control, & endurance), and engine/fuel logs.

Performance Standard. Upon completion, the student flight engineer will be able to perform normal procedures and mission planning; and use aircraft performance data (range prediction, range control, & endurance), and engine/fuel logs associated with extended overwater flights.

FAM-122 8.0 R 1 KC-130 A N

Goal. Familiarize the student flight engineer on extended over water night flight operations to include mission planning, range prediction, range control, endurance, and use of engine/fuel logs.

Requirement. Instructor flight engineer will instruct the student flight engineer on extended overwater night flight to include normal procedures, mission planning, use of aircraft performance data (range prediction, range control, & endurance), and engine/fuel logs.

Performance Standard. Upon completion, the student flight engineer will be able to perform normal procedures, mission planning, use aircraft performance data (range prediction, range control, & endurance), and engine/fuel logs associated with extended over water night flights.

## 2. Systems Review

a. Purpose. Review aircraft systems, systems operation, system malfunctions, corrective actions, and troubleshooting per current instructions.

b. General. Instructor flight engineer may induce malfunctions and simulated emergencies as practical.

### c. Ground Training

(1) All systems reviewed require ground instruction.

(2) Four hours of 3M documentation.

### d. Flight Training (13 flights 52.0 Hours)

REV-130                      4.0                      C      1 KC-130 A

Goal. Review aircraft engines and GTC/APU.

Requirement. Review the aircraft's engines including the power section, torque-meter assembly, reduction gear box assembly, and the oil system.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft engine operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-131                      4.0                      1 KC-130 A

Goal. Review aircraft engine related systems.

Requirement. Review aircraft engine related systems to include the engine fuel system, starting system, ignition system, temperature datum control system, engine controls, fire & overheat detection systems, and fire extinguishing systems.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft engine related systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-132

4.0

1 KC-130 A

Goal. Review aircraft propeller system.

Requirement. Review the aircraft propeller assemblies. Include the blade assemblies, barrel assembly, dome assembly, spinner assembly, anti-icing/deicing assemblies, control assembly, governing system, synchrophasing system, and propeller controls.

performance Standard. Upon completion the student flight engineer will be knowledgeable on aircraft propeller assemblies operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-133

4.0

R, C 1 KC-130 A

Goal. Review the aircraft AC electrical systems.

Requirement. Review the aircraft AC electrical systems including the primary and secondary systems, indicators, and system warning lights.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft AC electrical systems, operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-134

4.0

1 KC-130 A

Goal. Review the aircraft DC electrical system.

Requirement. Review the aircraft DC electrical systems including TR units, the battery system, indicators, and system warning lights.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable in aircraft DC electrical systems, their operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-135

4.0

1 KC-130 A

Goal. Review bleed air systems, anti-icing and deicing systems.

Requirement. Review the aircraft bleed air systems to include the air turbine motor, associated bleed air valves & ducting, nacelle preheat, bleed air system controls, and isolation valves, wing and empennage anti-icing, propeller anti-icing/de-icing, and NESA system.

performance Standard. Upon completion, the student flight engineer will be knowledgeable on the aircraft bleed air systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.



- REV-136            4.0            1 KC-130   A
- Goal.   Review   air conditioning, pressurization and oxygen systems.
- Requirement.   Review the aircraft air conditioning systems including the flight station and cargo compartment air conditioning systems1 outflow valve, safety valve, cabin pressure controls, and oxygen systems.
- performance Standard.   Upon completion, the student flight engineer will be knowledgeable on the aircraft air conditioning systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.
- REV-137            4.0            1 KC-130   A
- Goal.   Review the aircraft fuel systems.
- Requirement.   Review the aircraft fuel systems.   Include the refueling/defueling system & procedures, tank construction, the water removal, crossfeed, fuel transfer & jettison, IFR, single- point refueling systems, fuel system controls, and the fuel indicating system.
- Performance Standard.   Upon completion, the student flight engineer will be knowledgeable on aircraft fuel systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.
- REV-138            4.0            1 KC-130   ~
- Goal.   Review the aircraft utility hydraulic and forward cargo door systems.
- Requirement.   Review the utility hydraulic and forward cargo door hydraulic systems to include the basic hydraulic system and sub systems (portion of flight controls, landing gear1 IFR, flaps, wheel brakes, and nose wheel steering systems).
- Performance Standard.   Upon completion, the student flight engineer will be knowledgeable on aircraft utility and forward cargo door hydraulic systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.
- REV-139            4.0            1KC-130A
- Goal.   Review the aircraft booster and auxiliary hydraulic systems.
- Requirement.   Review the aircraft booster & auxiliary hydraulic systems to include basic hydraulic systems & subsystems portion of the flight controls, ramp & aft cargo door, emergency brakes, and the emergency nose landing gear extension (some aircraft).

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft booster & auxiliary systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-140                      4.0                      R   C 1 KC-130    A

Goal.   Review the aircraft communications systems.

Requirement.   Review aircraft communication systems.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on communication systems operation, voice procedures, possible malfunctions, troubleshooting, and corrective actions per current instructions.

REV-141                      4.0                      R   C 1 KC-130    A

Goal.   Review   navigation and flight instrument systems.

Requirement.   Review   navigation systems.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft navigation system operation, troubleshooting, and corrective actions per current instructions.

REV-142                      4.0                      1 KC-130    A

Goal.   Review aircraft aerial refueling systems.

Requirement.   Review aircraft aerial refueling systems to include hydraulic system, fuel system, and inflight refueling system controls.

Performance Standard. Upon completion, the student flight engineer will be knowledgeable on aircraft aerial refueling systems operation, possible malfunctions, troubleshooting, and corrective actions per current instructions.

### 3.   Intermediate Progress Evaluation

a.   Purpose.   Evaluate the student flight engineer's overall progress.

b.   General.   Flight portion of the progress evaluation will be conducted on an extended over water flight or an extended overland flight to include a remain overnight (RON).

c.   Flight Training   (1 Flight. 4.0 Hours)

CK-150                      4.0                      E   OFT/WST/1KC-130    A

Goal.   Evaluate the student flight engineer's overall progress.

Requirement.   The instructor flight engineer will evaluate the student flight engineer's progress.

Performance Standard. Upon completion, the student flight engineer will have demonstrated his knowledge of normal and emergency procedures per current instructions.

#### 4. Maintenance Ground Runs and Functional Check Flights (FCF)

a. Purpose. Familiarize the student flight engineer on post maintenance run-up procedures and FCF procedures.

b. General. All required FCF's will be conducted upon completion of post maintenance run-ups.

c. Simulator Training (4 Periods. 14.0 Hours)

SMGR-160            3.0            IPT/CPT/OOFT/WST   S

Goal. Introduce ground maintenance run-up procedures.

Requirement. The instructor flight engineer will instruct the student flight engineer on ground maintenance run-up procedure per current instructions. The student flight engineer will occupy the left seat during this phase.

Performance Standard. Upon completion, the student flight engineer will be familiar with ground maintenance run-up procedures per current instructions.

SMGR-161            3.0            IPT/CPT/OFT/WST   S

Goal. Refine ground maintenance run-up procedures.

Requirement. The student flight engineer will perform the ground maintenance run-up per current instructions from the left seat.

Performance Standard. Upon completion, the student flight engineer will be proficient on ground maintenance run-up procedures per current instructions.

SFCF-162            4.0            IPT/CPT/QFT/WST   S

Goal. Introduce FCF procedures to student flight engineer per current instructions.

Requirement. The instructor flight engineer will introduce the FCF procedures to the student flight engineer per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with the FCF procedures per current instructions.

SFCF-163            4.0            IPT/CPT/OFT/WST   S

Goal. Refine FCF procedures per current instructions.

Requirement. The student flight engineer will perform an "A" profile FCF per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with FCF procedures per current instructions.

d. Ground Training (3 Period, 9.0 Hours)

MGR-164                      3.0                      1 KC-130      S

Goal. Refine ground maintenance run-up procedures.

Requirement. The student flight engineer will perform a phase ground maintenance run-up from the left seat per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with phase ground maintenance run-up procedures per current instructions.

MGR-165                      3.0                      1 KC-130      S

Goal. Refine ground maintenance run-up procedures and introduce taxi procedures.

Requirement. The student flight engineer will perform a phase ground maintenance run-up from the left seat per current instructions. The instructor flight engineer will instruct the student flight engineer on proper taxi procedures per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with phase ground maintenance run-up and taxi procedures per current instructions.

MGRCK-166                      3.0                      R 1 KC-130      S

Goal. Maintenance ground run-up check.

Requirement. The instructor flight engineer will evaluate the student flight engineer while performing a phase maintenance ground run-up from the left seat per current instructions.

Performance Standard. Upon completion, the student flight engineer will be proficient on phase maintenance ground run-up procedures per current instructions.

e. Flight Training (1 Period, 2.0 Hours)

FCF-167                      2.0                      R 1 KC-130      A

Goal. Review FCF procedures.

Requirement. Review FCF procedures per current instructions.

Performance Standard. Upon completion, the will be knowledgeable on FCF procedures per current instructions.

## 5. Mission Familiarizations

a. Purpose. Familiarize the student flight engineer with aircraft missions.

b. General. Instructor flight engineer will induce emergencies and malfunctions as practical.

## c. Flight Training (7 Flights 28.0 Hours)

MFAM-170            4.0                    R   1 KC-130   A

Goal. Fixed-wing aerial refueling procedures familiarization.

Requirement. Conduct fixed-wing aerial refueling with multiple receivers.

Performance Standard. Upon completion, student flight engineer will be familiar with fixed-wing aerial refueling missions.

MFAM-171            4.0                    R   1 KC-130   A

Goal. Refine fixed-wing aerial refueling missions.

Requirement. Conduct aerial refueling mission with multiple receivers.

Performance Standard. Upon completion, student flight engineer will be knowledgeable on fixed-wing aerial refueling missions.

MFAM-172            4.0                    R   1 KC-130   A

Goal. Introduce helicopter refueling missions.

Requirement. Familiarize student flight engineer on helicopter refueling missions per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with helicopter refueling missions per current instructions.

MFAM-173            4.0                    R   1 KC-130   A

Goal. Introduce EMCON refueling missions.

Requirement. Familiarize student flight engineer with EMCON refueling missions.

Performance Standard. Upon completion student flight engineer will be familiar with EMCON refueling missions per current instructions.

MFAM-174            4.0                    R   1 KC-130   A

Goal. Low level missions familiarization.

Requirement. Familiarize student flight engineer on low level missions per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with low level missions per current instructions.

MFAM-175                      4.0                      1 KC-130    A

Goal    Cargo loading mission familiarization.

Requirement. Familiarize the student flight engineer on cargo loading missions per current instructions.

Performance Standard. Upon completion the student flight engineer will be familiar with cargo loading missions per current instructions.

MFAM-176                      4.0                      2 KC-130    A

Goal.    Introduce formation procedures.

Requirement. Familiarize the student flight engineer in formation procedures per current instructions.

Performance Standard. Upon completion, the student flight engineer will be familiar with formation procedures per current instructions.

#### 6. Flight Engineer Initial Evaluation    (FE-2 Check)

a. Purpose. Evaluate the student flight engineer per NATOPS procedures.

b. General. Initial flight engineer evaluation will be conducted during this phase. Upon successful completion of this stage, the student flight engineer shall be designated FE-2. This qualification and subsequent completion of the Combat Ready Check (CK-290) is prerequisite to designation as a FE-1. The FE-2 is considered systems qualified but requires supervision by a Flight Engineer Instructor until successful completion of CK-290.

d. Flight Training    (1 Flight. 8.0 Hours)

CK-190                      8.0                      R    E 1 KC-130/OFT/WST    A/S

Goal.    NATOPS evaluation.

Requirement. NATOPS instructor/evaluator will evaluate student flight engineer per NATOPS procedures. Remain overnight (RON) flight is preferred.

Performance Standard. Qualified per NATOPS.

## 842. COMBAT READY TRAINING

## 1. Administrative Flight

a. Purpose. Maintain flight engineer proficiency on administrative flights.

## b. Flight Training (2 flights. 4 Hours)

FE-200                    2.0                    1 KC-130/OFT/WST    A/S

Goal. Maintain proficiency in normal and emergency procedures during day flight operations.

Requirement. Review normal and emergency procedures during day flight operations per current instructions.

FE-201                    2.0                    1 KC-130/OFT/WST    A/S    N

Goal. Maintain proficiency in normal and emergency procedures during night flight operations.

Requirement. Review normal and emergency procedures during night flight operations per current instructions.

## 2. Aerial Refueling

a. Purpose. Refine flight engineer in aerial refueling missions per current instructions.

## b. Flight Training (4 Flights. 16.0 Hours)

AR-210                    4.0                    1 KC-130/OFT/WST    A/S

Goal. Refine fixed wing aerial refueling procedures.

Requirement. Review normal and emergency aerial refueling procedures PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

AR-211                    4.0                    1 KC-130/OFT/WST    A/S    N

Goal. Introduce and refine night fixed wing aerial refueling procedures.

Requirement. Review normal and emergency aerial refueling procedures at night PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

Prerequisite. AR-210.

AR-212                    4.0                    1 KC-130/OFT/WST    A/S

Goal. Refine helicopter aerial refueling procedures.

Requirement. Review normal and emergency helicopter refueling procedures PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

AR-213                    4.0                    1 KC-130/OFT/WST   A/S   N

Goal.   Introduce night helicopter aerial refueling procedures.

Requirement.   Review normal and emergency helicopter refueling procedures at night PER KC-130 TACMAN and AR Manual.   Use of EMCCN procedures is optional.

Prerequisite.   AR-212.

### 3.   Low Level

a.   Purpose.   Train the flight engineer in low level procedures.

b.   Flight Training (2 Flights. 5.0 Hours)

LL-220                    2.0                    1 KC-130/OFT/WST   A/S

Goal.   Refine low level procedures.

Requirement.   Fly a low level route PER KC-130 TACMAN procedures.

LL-221                    3.0                    1 KC-130/OFT/WST   A/S   N

Goal.   Introduce night low level procedures.

Requirement.   Fly a night low level route PER KO-130 TACMAN procedures.

Prerequisite.   LL-220.

### 4.   Formation

a.   Purpose.   Train the flight engineer in formation procedures.

b.   Flight Training (2 Flights. 6.0 Hours)

FORM-230                    3.0.                    2 KC-130/OFT/WST   A/S

Goal.   Proficiency training in formation procedures.

Requirement.   Fly a two plane formation flight PER NATOPS and TACMAN.

FQRM-231                    3.0                    2 KC-130/OFT/WST   A/S   N

Goal.   Introduce night section formation.

Requirement.   Fly a two plane night formation flight PER NATOPS and TACMAN.

Prerequisite.   FORM-230.



## 5. Aerial Delivery

a. Purpose. Refine the flight engineer in aerial delivery procedures per current instructions.

b. Flight Training (1 Flight. 3.0 Hours)

AD-240                      3.0                      1 KC-130/OFT/WST    A/S

Goal. Refine aerial delivery procedures.

Requirement. Fly and review aerial delivery mission of cargo or troops PER TACMAN.

## 6. Overwater ICAO Environments

a. Purpose. Refine the flight engineer in extended over water procedures.

b. Flight Training (1 Flight. 8.0 Hours)

QWICAO-250                16.0                      1 KC-130            A

Goal. Refine extended overwater procedures.

Requirement. Fly an extended overwater flight and review over-water procedures placing emphasis on mission planning, use of aircraft performance data, and engine/fuel logs.

## 7. Temporary Landing Zones

a. Purpose. Train the flight engineer on temporary landing zones.

b. Flight Training (1 Flight. 3.0 Hours)

TLZ-270                    3.0                      1 KC-130/OFT/WST    A/S

Goal. Introduce TLZ procedures at improved fields.

Requirement. Introduce maximum effort takeoffs and landings at improved field PER TACMAN. Review all appropriate performance data.

## 8. Rapid Ground Refueling

a. Purpose. Train the flight engineer in rapid ground refueling.

b. Flight Training (1 Flights. 2.0 Hours)

RGR-273                    2.0                      1 KC-130            S

Goal. Train the FE in rapid ground refueling.

Requirement. Conduct rapid ground refueling with actual aircraft engines running PER NATOPS and TACMAN.

## 9. Functional Check Flight

a. Purpose. Maintain proficiency in functional check flight procedures.

b. Flight Training (1 Flight. 2.0 Hours)

FCF-280                      2.0                      1 KC-130/OFT/WST    A/S

Goal. Maintain proficiency in functional check flight procedures.

Requirement. Review normal and emergency procedures during a functional check flight profile A, B, C, or D.

## 10. Flight Engineer Combat Ready Evaluation

a. Purpose. Evaluate the FE-2 per NATOPS and TACMAN procedures for designation as Flight Engineer 1 (FE-1) and Combat Ready. This check is only required for initial training. There is no annual refly requirement.

b. General. Combat Ready flight engineer evaluation will be conducted upon completion of the Combat Ready Training Syllabus (all 200 codes)

c. Flight Training (1 Flight. 8.0 Hours)

CK-290                      8.0                      R. E 1 KC-130    A

Goal. NATOPS evaluation.

Requirement. NATOPS instructor/evaluator will evaluate FE-2 per NATOPS and TACMAN procedures. Should be either AR, AO, LL, TLZ, RGR, or combination mission. Remain overnight (RON) flight is preferred.

Performance Standard. Qualified per NATOPS, Combat Ready.

## 843. COMBAT OUALIFICATION TRAINING

## 1. Low Level Aerial Refueling

a. Purpose. Train flight engineer in low level refueling procedures.

b. Flight Training (4 Flights. 12.0 Hours)

LLAR-310                      3.0                      1 KC-130/OFT/WST    A/S

Goal. Introduce fixed wing low level aerial refueling procedures.

Requirement. Fly low level aerial refueling mission PER TACMAN and AR Manual. EMCON procedures are optional.

Prerequisite. AR-210, LL-220.

- LLAR-311            3.0                    1 KC-130/OFT/WST    A/S    N
- Goal.    Introduce fixed wing low level aerial refueling procedures at night.
- Requirement.    Fly night low level aerial refueling mission PER TACMAN and AR Manual.    EMCON procedures are optional.
- Prerequisite.    AR-211, LL-221.
- LLAR-312            3.0                    1 KC-130/OFT/WST    A/S
- Goal.    Introduce low level helicopter refueling procedures.
- Requirement.    Fly a low level helicopter refueling mission PER TACMAN and AR Manual.
- Prerequisite.    AR-212, LL-220.
- LLAR-313            3.0                    1 KC-130/OFT/WST    A/S    N
- Goal.    Introduce low level helicopter refueling procedures at night.
- Requirement.    Fly a low level helicopter refueling mission for proficiency at night PER TACMAN and AR Manual.
- Prerequisite.    AR-213, LL-221.
2.    Formation Aerial Refueling
- a.    Purpose.    Train the flight engineer in overland and overwater multiplane aerial refueling procedures.
- b.    Flight Training (2 Flights. 16.0 Hours)
- OLAR-314            8.0                    2 or more KC-130'S    A
- Goal.    Train overland multiplane aerial refueling procedures.
- Requirement.    Conduct overland multiplane aerial refueling PER NATOPS, TACMAN and AR Manual.
- Prerequisite.    AR-220, FORM-230.
- QWAR-315            8.0                    2 or more KC130's    A
- Goal.    Train overwater multiplane aerial refueling.
- Requirement.    Conduct overwater multiplane aerial refueling PER NATOPS, TACMAN and AR Manual.
- Prerequisite.    AR-220, FORM-230, OWICAO-250.

## 3. Aerial Delivery

- a. Purpose. Train the flight engineer in aerial delivery procedures.
- b. Flight Training (2 Flights. 6.0 Hours)

AD-340                    3.0                    1 KC-130    A

Goal. Train short look procedures.

Requirement. Fly day or night low level to aerial delivery PER TACMAN. Introduce low-high-low profile with modified slowdown aerial delivery procedures.

Prerequisite. LL-220, AD-240.

AD-343                    3.0                    KC-130    A    N

Goal. Introduce aerial delivery of illumination flare procedures.

Requirement. Conduct aerial delivery of illumination flares PER TACMAN.

## 4. Aircraft survivability Equipment (ASE)

- a. Purpose. Train the flight engineer in Aircraft survivability Equipment/Defensive Tactics.
- b. Flight Training (2 Flights. 4.0 Hours)

ASE-360                    2.0                    1 KC-130    A

Goal. Train the flight engineer duties in the ASE environment.

Requirement. Conduct and train in ASE procedures. Train ground loading procedures, system setup and operation, and operate ASE systems in flight to actually fire flares or chaff, emphasis on evasive flight techniques in coordination with ASE employment. Flight on ASE range preferred.

## 5. Temporary Landing Zones

- a. Purpose. Train the flight engineer in short field operations.
- b. Flight Training (2 Flights. 4.0 Hours)

TLZ-370                    2.0                    1 KC-130    A

Goal. Introduce short field operations.

Requirement. Introduce takeoffs and landings at unimproved airfields PER NATOPS and TACMAN.

Prerequisite. TLZ-270.

TLZ-371            2.0            KC-130   A   N

Goal.    Introduce night short field operations.

Requirement.   Review takeoffs and landings at improved or unimproved airfields at night PER NATOPS and TACMAN.

Prerequisite.   TLZ-370.

6.   Rapid Ground Refueling

a.   Purpose.   Train the flight engineer in rapid ground refueling.

b.   Flight Training   (1 Flight   2.0 Hours)

RGR-373            2.0            KC-130   S   N

Goal.    Train night rapid ground refueling.

Requirement.   Conduct night rapid ground refueling with actual aircraft engines running PER NATOPS and TACMAN.

Prerequisite.   RGR-273.

7.   Annual Requalification Check

a.   Purpose.   Conduct an annual requalification and standardization check.

b.   Flight Training   (1 Flight   8.0 Hours)

CK-390            8.0            E   1 KC-130/OFT/WST   A/S

Goal.    NATOPS annual requalification.

Requirement.   NATOPS evaluator/assistant NATOPS instructor shall evaluate the flight engineer for NATOPS procedures. RON is preferred.

Performance Standard.   Flight engineer shall meet the standards as set forth in the current KC-130 NATOPS manual for qualification.

## 844. FULL COMBAT GUALIFICATION TRAINING

## 1. Low Altitude Tactics (LAT)

a. Introduction. All flight engineers shall be trained and qualified in LAT procedures. Initial training and certification shall be conducted by a flight engineer WTACI. Once designated LAT qualified flight engineers need only maintain proficiency to fly LAT missions. Low altitude flight currency restrictions contained within T&R Volume 1 do not apply to this crew position.

b. Purpose. Train the flight engineer in low altitude tactics.

c. Flight Training (3 Flights. 7.0 Hours)

LAT-432                    2.0                    1 KC-130    A

Goal.    Introduce low altitude tactics.

Requirement.    Introduce terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN.

Prerequisite.    LL-220.

LAT-433                    2.0                    1 KC-130    A

Goal.    Refine low altitude tactics.

Requirement.    Review terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN. Introduce section LAT.

Prerequisite.    LAT-432.

LAT-434                    3.0                    R 1 KC-130    A

Goal.    Qualify the flight engineer in low altitude tactics.

Requirement.    Review terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN.

Performance Standard. Performs all required duties during LAT PER NATOPS and KC-130 Tactics Manual.

Prerequisite.    LAT-433.

## 2. Defensive Tactics (DEFTAC)

a. Purpose. Refine the flight engineer duties in Defensive Tactics procedures.

b. Instructor Requirement. DEFTAC shall be instructed by a WTACI.

c. Flight Training (3 Flights. 6.0 Hours)

DEFTAC-460                2.0                    1 KC-130 & 1 Adversary    A

Goal.    Train aircrews in defensive tactics.

Requirement.    Introduce defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, and lookout doctrine.

Prerequisite. LAT-434.

DEFTAC-461      2.0      1 KC-130 & 1 Adversary    A

Goal. Train aircrews in defensive tactics.

Requirement. Refine procedures covered in DEFTAC-460.

Prerequisite. DEFTAC-460.

DEFTAC-462      2.0      1 KC-130    2 Adversaries    A

Goal. Train aircrews in defensive tactics.

Requirement. Refine defensive maneuvering with two adversaries. Emphasis shall be placed on briefing, conduct of flight, and lookout doctrine.

Prerequisite. DEFTAC-461.

## 850. FLEET READINESS SQUADRON FLIGHT/SIMULATOR INSTRUCTOR

### 1. FRS INSTRUCTOR UNDER TRAINING

a. Purpose. Standardize the instructor flight engineer procedures for CPT/OFT/WST device operation.

#### b. General

(1) Emphasis will be placed on standardization and the ability of the flight engineer to instruct normal & emergency procedures per the NATOPS Flight Manual.

(2) Fifteen hundred (1500) flight hours as a qualified flight engineer and FEI designation are required to begin this stage of qualification.

#### c. Simulator Training (5 Periods 20.0 Hours)

FAM-500      4.0      E    CPT/OFT    S

Goal. Familiarize the instructor under training in the proper operation of the device trainers.

Requirement. Instruct IUT on proper set-up and safe operation of device trainer.

FAM-501      4.0      E    CPT/OFT    S

Goal. Refine device operation.

Requirement. Review FAM-500; IUT will demonstrate proper device operation per current instruction.

FAM-502      4.0      E    CPT/OFT    S

Goal. Refine device operation.

Requirement. Review FAM-501; combine device operations with instructional techniques.

FAM-503                    4.0                    E   CPT/OFT   S

Goal.   Refine device operation and instructional techniques.

Requirement.   Review FAM-502.

FAM-504                    4.0                    E   CPT/OFT   S

Goal.   Qualification to operate the device trainer effectively.

Requirement.   IUT must demonstrate proper device operation combining instructional technique.

d.   Flight Training   (1 Flight. 8.0 Hours)

FAN-505                    8.0                    E   1 KC-130   A

Goal.   Standardize instructional techniques.

Requirement.   Fly any extended flight.   Review current maintenance and normal & emergency procedures per current instructions.

Performance Standard.   Upon completion, the IUT will be able to instruct FRS students per current instructions on the device trainer and the KC-130.

Prerequisite.   FEI-590

## 851.   INSTRUCTOR OUALIFICATIONS

### 1.   STANDARDIZED INSTRUCTOR OUALIFICATIONS

a.   Purpose.   Qualify the flight engineer as a Flight Engineer Instructor/NATOPS Evaluator/Assistant NATOPS Instructor/Night Systems Instructor/Weapons and Tactics Aircrew Instructor and standardize the Grading criteria for those items to be evaluated.

b.   General.   Emphasis will be placed on standardization of the grading worksheet, grading criteria and instructor techniques.

#### c.   Prerequisite

(1) A minimum of one thousand (1000) flight hours as a qualified F/R/T flight engineer to become a Flight Engineer Instructor (FEI).

(2) A minimum of fifteen hundred (1500) flight hours as a qualified F/R/T flight engineer and designated FEI to become NATOPS Evaluator/Assistant NATOPS Instructor.

(3) Night Systems Instructor:   FEI with additional requirements outlined in the MAWTS-1 Course Catalog.

(4) WTACI:   FEI with additional requirements outlined in the MAWTS-1 Course Catalog.

d.   Ground Training.   FFI-590 requires completion of MAWTS-1 Instructor Training Series ASP.



## e. Flight Training (4 Flights. 12.0 Hours)

FEI-590 4.0 E 1 KC-130 A

Goal. Evaluate the flight engineer as a Flight Engineer Instructor.

Requirement. Conduct a Flight Engineer Instructor evaluation.

Performance Standard. The flight engineer shall be able to instruct student flight engineers and flight mechanics on aircraft systems, operations, normal and emergency procedures, and T&R events PER NATOPS and MIMS.

NATOPS-591 4.0 E 1 KC-130 A

Goal. Evaluate the flight engineer as a NATOPS Evaluator or Assistant NATOPS Instructor.

Requirement. Conduct a comprehensive NATOPS Evaluator or Assistant NATOPS Instructor evaluation with emphasis on standardization and grading criteria.

Performance Standard. The flight engineer shall be able to evaluate flight engineers and flight mechanics for standardization with NATOPS procedures and appropriate knowledge of aircraft systems and maintenance procedures.

NSI-593 2.0 E 1 KC-130 A

T&R volume 1 and MAWTS-1 Course catalog are germane.

WTI-594 2.0 E 1 KC-130 A

T&R volume 1 and MAWTS-1 Course catalog are germane.

## 852. SPECIAL MISSIONS

## 1. Transportation of Nuclear Weapons

a. Purpose. Qualify aircrews in procedures to properly transport nuclear weapons.

b. General. Must be assigned to the PRP.

c. Flight Training (1 Flight 4.0 Hours)

CPL-600 4.0 1 KC-130 A

Goal. Train aircrews in the transportation of nuclear weapons.

Requirement. Introduce nuclear weapons loading Procedures, restrictions, special safety, and emergency procedures.

## 2. Night Systems Operations

a. Purpose. Introduce and qualify the flight engineer in Night Systems (NS) operations, or to maintain proficiency for NSQ flight engineers, and to review concepts associated with night visual phenomena.

b. General. The NSQ syllabus consists of (NVG-601, 610, 620, 621, 640, 670). NSQ flight engineers shall be designated by the squadron Commanding Officer.

(1) Prior to receiving initial NSQ in the KC-130, flight engineers shall be CK-290 complete. All ground training shall be completed prior to flight training and NVG-601 shall be completed prior to all other NSQ codes.

(2) Upon completion of the NSQ syllabus the flight engineer need only meet prerequisites and proficiency required of each sortie. If the refly interval is exceeded, the sortie may be reflowed with either a current NSQ or NSI flight engineer.

(3) Night level requirements for each sortie are identified in the "requirement" description of each sortie. These light level requirements pertain only to the first time this sortie is flown.

c. Instructor Requirements. Shall be in accordance with T&R Vol 1. Any NSI may instruct the ground portion but a flight engineer NSI is required for all flight training.

d. Ground Training.

(1) NITE lab.

(2) Night Systems Class (developed by MAWTS-1)

## 3. Night Systems Familiarization

a. Purpose. To familiarize the flight engineer with Night Systems operations.

b. Flight Training (1 Flight. 1.5 Hours)

NVG-601	1.5	1 KC-130	A N
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Goal. Introduce the flight engineer to KC-130 Night Systems and the use of NVG's in the KC-130.

Requirement. High light level conditions. Emphasis will be on donning of the NVG's, taxi procedures, aborts, take-offs, cockpit orientation, landings, aircraft ground reversing operations, aircraft lighting, aircraft night systems, and NVG aircrew coordination.

## 4. Night Systems Air Refueling

a. Purpose. Provide flight training and qualify the flight engineer in basic night systems air refueling operations and to review concepts associated with night visual phenomena.

## c. Flight Training (1 Flight 1.5 Hours)

NVG-610                    1.5                    1 KC-130    A    N

Goal. Introduce the flight engineer to fixed wing or rotary wing aerial refueling operations utilizing NVG's.  
Requirement. Low or high light level conditions. With the student in the seat, conduct a rendezvous with fixed wing or rotary wing receivers and perform refueling emphasizing aircrew coordination, rendezvous and refueling procedures. Rendezvous and refueling altitudes shall be in accordance with T&R Manual, Volume 1, and the NATOPS Air Refueling Manual. Use of EMCON procedures is optional.

Prerequisite. AR-211, NVG-601.

## 5. Night Systems Low Level Navigation

a. Purpose. Provide flight training and qualify the flight engineer in basic night systems low level navigation operations and to review concepts associated with night visual phenomena.

## b. Flight Training (2 Flights. 3.0 Hours)

NVG-620                    1.5                    1 KC-130    N    A

Goal. Conduct a low level navigation route while utilizing the NVG' 5.

Requirement. High light level conditions. Fly a night low level navigation route of at least 6 checkpoints utilizing NVG's. Altitudes shall be in accordance with T&R volume 1 for NVG accommodation and establishment of comfort level. The student shall be in the flight engineer's seat. Emphasis will be on point to point navigation, crew coordination, and cockpit voice procedures.

Prerequisite. LL-221, NVG-601.

NVG-621                    1.5                    1 KC-130    A    N

Goal. Conduct a low level navigation route in low light level conditions while utilizing the NVG's.

Requirement. Low light level conditions. Fly and debrief a night low level navigation route of at least 6 checkpoints utilizing NVG's. Altitudes shall be in accordance with T&R volume 1 for NVG accommodation and establishment of comfort level. The student shall be in the flight engineer's seat. Emphasis will be on crew coordination and contrast between high and low light level conditions.

Prerequisite. NVG-620

## 6. Night Systems Low Altitude Tactics

a. Purpose. Introduce, qualify, and train the flight engineer in LAT in the night systems environment.

b. Flight Training (1 Flight. 1.5 Hours)

NVG-622                    1.5                    1 KC-130 A N

Goal. Conduct LAT while utilizing the NVG's.

Requirement. The flight is to be conducted in two phases. First phase introduces flying at comfort level, terrain masking, ridge line crossings, lookout doctrine, break turns, hard turns, and climb to cope. Second phase to be conducted at comfort level. Practice flying at comfort level, terrain masking, lookout doctrine, and climb to cope. Hard and break turns shall not be flown in this phase of flight.

Prerequisite. Must be NSQ, NSI on board and LAT-434.

## 7. Night Systems Formation

a. Purpose. Provide flight training and qualify aircrew in basic night systems formation operations and to review concepts associated with night visual phenomena.

b. General. Prerequisite: Must be NSQ, NSI on board and FORM-231.

c. Flight Training (1 Flight 1.5 Hours)

NVG-630                    1.5                    1 KC-130 A N

Goal. Introduce the flight engineer to formation flight utilizing NVG's.

Requirement. High or low light level. Fly a formation flight, practicing lead and trail position flying utilizing NVG's.

## 8. Night Systems Aerial Delivery

a. Purpose. Provide flight training and qualify aircrew in basic night systems aerial delivery operations and to review concepts associated with night visual phenomena.

b. Flight Training (1 Flight 1.5 Hours)

NVG-640                    1.5                    1 KC-130 A N

Goal. Train the flight engineer in aerial delivery mission procedures in the NS environment.

Requirement. High or low light level. Conduct an aerial delivery mission using Night Vision Devices NVG's. Utilize a low-high-low profile when possible. Emphasis shall be on checklist employment and crew coordination.

Prerequisite. AD-240, NVG-601; NVG-620 for low-high-low profile.

## 9. Night Systems Aircraft Survivability Equipment

a. Purpose. provide flight training and qualify aircrew in basic night systems aircraft systems equipment operations and to review concepts associated with night visual phenomena.

## b. Flight Training (1 Flight. 1.5 Hours)

NVG-660                      1.5                      1 KC-130    A    N

Goal. Conduct ASE operations while utilizing NWG's.

Requirement. High or low light level. Flight shall be conducted on a suitable range and either flares, chaff, or both shall be expended in response to a simulated threat. Emphasis shall be on aircrew coordination during the defensive/evasive maneuver phases of flight.

Prerequisite. ASE-360, NVG-601.

## 10. Night Systems Temporary Landing Zone Operations

a. Purpose. provide flight training and qualify aircrew in basic night systems temporary landing zone operations and to review concepts associated with night visual phenomena.

## b. Flight Training (2 Flights 3.0 Hours)

NVG-670                      1.5                      1 KC-130    A    N

Goal. Conduct touch and go landings and full stops at a TLZ while utilizing NVG's.

Requirement. High light level. Takeoffs and landings shall be performed with the student in the flight engineers seat. Emphasis shall be on aircrew coordination during the takeoff and landing phases of flight. A minimum of four touch and goes and one full stop should be performed. The TLZ may be improved or unimproved.

Prerequisite. TLZ-270, NVG-601.

NVG-671                      1.5                      1 KC-130    A    N

Goal. Conduct TLZ landings in low light conditions while utilizing NVG's.

Requirement. Low light level conditions. A minimum of four touch and goes and one full stop should be accomplished. Emphasis shall be on differences in TLZ operations in low light conditions and TLZ operations in high light level conditions.

Prerequisite. NVG-670.

## 11. Night Systems Qualification Check

- a. Purpose. Conduct Night Systems Qualification check.
- b. Flight Training (1 Flight. 1.5 Hours)

NSQ-690                    1.5                    R 1 KC-130    A    N

Goal. Qualify the flight engineer as NSQ.

Requirement. Low or high light level conditions. Demonstrate the required skills to conduct KC-130 night operations using NVG's. The flight engineer shall have completed the NSQ syllabus and have flown a minimum of 5 NVG hours in low light level conditions with a NSI prior to flying NSQ-690. The flight engineer to be qualified shall fly a Night Systems sortie. This sortie may be any one of, or a combination of the following: NVG-610, 620, 621, 640, 670.

## 12. Assisted Take Off

- a. Purpose. Train the flight engineer in assisted takeoffs.
- c. Flight Training (1 Flight. 0.5 Hour)

ATO-695                    0.5                    1 KC-130    A

Goal. Introduce assisted takeoffs using JATO.

Requirement. Conduct assisted takeoffs using JATO. Plan for either burnout at liftoff or burnout at 50 feet.

860. EXPENDABLE ORDNANCE REQUIREMENTS. Not applicable.

T&R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 6032		CREW POSITION: FLIGHT ENGINEER				
TRAINING		REFLY						
<u>STAGE</u>	CODE	HRS	INTERVAL	CRP	T	C	R	E REMARKS
COMBAT CAPABLE TRAINING								
FAM	115	4.0	*	1.0			x	
	116	4.0	*	1.0			x	
	117	4.0	*	1.0			x	
	118	4.0	*	1.0			x	N
	119	4.0	*	1.0				
	120	4.0	*	1.0				
	121	8.0	*	1.0			x	
	122	8.0	*	1.0			x	
	130	4.0	*	1.1		x		
	131	4.0	*	1.2				
REV	132	4.0	*	1.2				
	133	2.0	*	1.2		x	x	
	134	4.0	*	1.2				
	135	4.0	*	1.2				
	136	4.0	*	1.2				
	137	4.0	*	1.2				
	138	4.0	*	1.2				
	139	4.0	*	1.2				
	140	4.0	*	1.2		x	x	
	141	4.0	*	1.2		x	x	
CK	142	4.0	*	1.2				
	150	4.0	*	5.0				x
SMGR	160	3.0	*	2.0				
	161	3.0	*	2.0				
SFCF	162	4.0	*	2.0				
	163	4.0	*	2.0				
MGR	164	3.0	*	2.0				
	165	3.0	*	2.0				
MGRCK	166	3.0	*	2.0			x	
FCF	167	2.0	*	2.0			x	
MFAM	170	4.0	*	1.5			x	
	171	4.0	*	1.5			x	
	172	4.0	*	1.5			x	
	173	4.0	*	1.5			x	
	174	4.0	*	1.5			x	
	175	4.0	*	1.5				
	176	4.0	*	1.5			x	
	190	8.0	*	5.0			x	x
COMBAT READY TRAINING								
FE	200	2.0	3	1.0				
	201	2.0	3	1.0				N
AR	210	4.0	6	1.0				
	211	4.0	12	1.0				N
	212	4.0	6	1.0				
	213	4.0	12	1.0				N
LL	220	2.0	12	1.0				
	221	3.0	12	1.0				N
FORM	230	3.0	12	1.0				2 A/C
	231	3.0	12	1.0				2 A/C N

Figure 8-2 MOS 6032 Refly Interval, Combat Readiness Percentage.

## T&amp;R VOLUME 2

AIRCRAFT: KC-130			MOS: 6032		CREW POSITION: FLIGHT ENGINEER				
TRAINING			REFLY						
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
AD	240	3.0	12	1.0					
OWICAG	250	8.0	12	1.0					
TLZ	270	3.0	12	1.0					
RGR	273	2.0	12	1.0					
FCF	280	2.0	12	1.0					
CK	290	8.0	*	0.0			x	x	
COMBAT QUALIFICATION TRAINING									
LLAR	310	3.0	6	1.0					
	311	3.0	12	1.0					N
	312	3.0	6	1.0					
	313	3.0	12	1.0					N
OLAR	314	8.0	12	2.0					2+ A/C
	315	8.0	12	2.0					2+ A/C
AD	340	3.0	12	2.0					
	343	3.0	12	1.0					N
ASE	360	2.0	12	1.0					
TLZ	370	2.0	12	2.0					
	371	2.0	12	2.0					N
RGR	373	2.0	12	2.0					
CK	390	8.0	12	2.0			x	x	
FULL-COMBAT QUALIFICATION TRAINING									
LAT	432	2.0	12	1.0					
	433	2.0	12	1.0					2 A/C
	434	3.0	12	1.0					
DEFTAC	460	2.0	12	0.5					
	461	2.0	12	0.5					
	462	2.0	12	1.0					2 A/C
INSTRUCTOR QUALIFICATION TRAINING									
FAM	505	8.0	*	0.0				x	
FEI	590	4.0	*	0.0				x	
NATOPS	591	4.0	*	0.0				x	
NSI	593	4.0	*	0.0				x	N
WTI	594	2.0	*	0.0				x	
SPECIAL TRACKING SORTIES									
CPL	600	4.0	*	0.0					
NVG	601	1.5	12	0.0					N
	610	1.5	12	0.0					N
	620	1.5	12	0.0					N
	621	1.5	12	0.0					N
	622	1.5	12	0.0					N
	630	1.5	12	0.0					N
	640	1.5	12	0.0					N
	660	1.5	12	0.0					N
	670	1.5	12	0.0					N

Figure 8-2.--MOS 6032 Refly Interval, Combat Readiness Percentage.



T&R MANUAL VOLUME 2

AIRCRAFT: KC-130		MOS: 6032		CREW POSITION:		FLIGHT			
ENGINEER									
<u>STAGE</u>	TRAINING CODE	REFLY HRS	INTERVAL	CRP	T	C	R	E	REMARKS
NVG	671	1.5	12	0.0					N
NSI	690	1.5	12	0.0			X	X	N
ATO	695	0.5	12	0.0					

Figure 8-2.--MOS 6032 Refly Interval, Combat Readiness Percentage.

## MOS 6032 FLIGHT UPDATE CHAINING

FLIGHT	<u>FLIGHTS</u>	<u>UPDATED</u>
200		
201	200	
210	200	
211	200, 201, 210	
212	200	
213	200, 201, 212	
220	200	
221	200, 201, 220	
230	200	
231	200, 201, 230	
240	200	
250	200	
270	200	
273	200	
280	200	
290	200	
310	200, 210, 220	
311	200, 201, 210, 211, 220, 221, 310	
312	200, 212, 220	
313	200, 201, 212, 213, 220, 221, 312	
314	200, 210, 230	
315	200, 201, 230, 250, 314	
340	200, 201, 220, 240	
343	200, 201, 240, 340	
360	200	
370	200, 270	
371	200, 201, 270, 370	
373	200, 201, 273	
390	200, 290	
432	200, 220	
433	200, 220, 432	
434	200, 220, 432, 433	
460	200	
461	200, 460	
462	200, 460, 461	
505		
590		
591		
593		
594		

Figure 8-2.--MOS 6032 FLIGHT CHAINING

## MOS 6032 FLIGHT UPDATE CHAINING

FLIGHT	<u>FLIGHTS</u>	<u>UPDATED</u>
600	200	
601	200,201	
610	601,200,201,210,211,212,213	
620	601,200,201,220,221	
621	601,620,200,201,220,221	
622	601,620,200,201,220,221,432,433,434	
630	601,200,201,230,231	
640	601,200,201,240,340	
660	601,200,201,360	
670	601,200,201,270,370,371	
671	601,670,200,201,270,370,371	
690		
695	200	

Figure 8-2.--MOS 6032 FLIGHT CHAINING (continued)

# T&R MANUAL, VOLUME 2

## CHAPTER 9

### KC-130 AIRBORNE RADIO OPERATOR (ARO) LOADMASTER (LM)

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\* \* NOTE \* \*

Aircrew coordination shall be briefed for all flight and events.

## MARINE AERIAL REFUELING SQUADRON - KC-130

## UNIT TEMPLATE

The capabilities defined and described in the care capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgment of the commander additional training would significantly increase the unit's Warfighting capability<sup>1</sup> training to a level above these base Capabilities is permitted. It is incumbent upon, and expected of, the Commander to balance any increase in the depth of core capabilities Against the long term health and readiness of his unit while staying Within his resource constraints.

## 1. TABLE OF ORGANIZATION

PAA-12 A/C: 26 TPC/16 T2P or T3P/23 NAV/25 F ENG/24 LOADM/24 F MECH

## 2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situation dependent.

b. A core capable squadron is able to sortie two divisions (-) of mission capable aerial refueling aircraft and within four hours of landing, sortie two more sections or sortie three sections of mission capable assault support aircraft and within four hours of landing, sortie two more sections. Perform the above from either a main base location or appropriate sized expeditionary airfield. All aircraft are capable of aerial and rapid ground refueling, assault support and two platforms being DE/IRCM equipped.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew who are at least 75% complete in each listed core skill.

CORE SKILL	CREWS	REMARKS
RW/FW AR	12	
RGR	8	
ERO/COL	8	
AD	6	
CPL	12	
OVERWATER	12	
LOW LEVEL	6	

## 4. REQUIRED CORE SKILLS AND SORTIES

## 4. REQUIRED CORE SKILLS AND SORTIES

	RW/FW AR	RGR	ERO/COL	AD	CPL	OVERWTR	LL NAV
1st TOUR	8	3	2	2	9	6	1
2nd TOUR	3	2	2	1	4	1	1
T&R CODES	110, 111, 112, 113, 114, 210* 211*212*	170, 272* 273*	270*271*	140, 240*	100, 101, 102, 103, 104, 200* 201*202* 203*	150, 151, 152, 153, 154, 250*	220*
*=2nd TOUR							

5. SORTIES REQUIRED TO MAINTAIN CORE SKILLS. For each twelve month period after achieving competency, a Aro/iro/im would be required to fly the following number of sorties in each skill area to maintain that competency.

	RW/FW AR	RGR	ERO/COL	AD	CPL	OVERWATER	LOW LEVEL
AIRCREW	1	1	2	1	1	1	1

6. INSTRUCTOR QUALIFICATIONS. As a minimum, in order for a squadron to be considered Core Competent, it must possess the following numbers of aircrew in the listed flight leadership instructor categories. (Note: If the squadron is <T/O, required numbers are reduced by a like %).

DESCRIPTION	CORE MINIMUM	REMARKS
TPC	16	
SEC LDR	8	
DIV LDR	6	
LATI	4	
ANI/INSTI	4	PER CREW POSITION
WTI/WTACI	2	PER CREW POSITION
RAC		
DEFTAC I		
NSI	2	PER CREW POSITION
FCF	12	

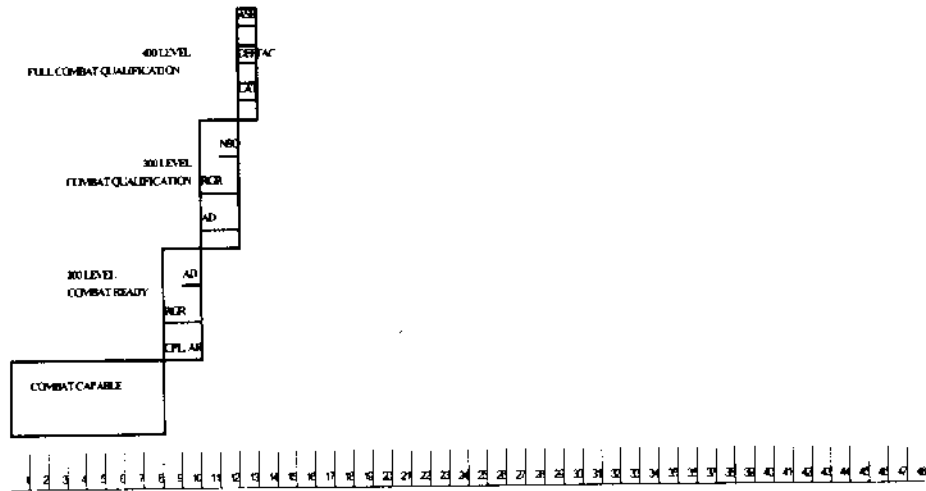
## 7. SORTIES REQUIRED TO QUALIFY FOR DESIGNATION AS FLIGHT LD/IP

	MSN CDR	DIV LDR	SEC LDR	LATI	DEFTACI
SORTIES					
T&R CODES					

	NSI	WTACI
SORTIES	10	1
T&R CODES	380,381, 382,383, 384,385, 386,390, 480,481	594



# KC-130 LOADMASTER/ARO CORE PROGRESSION MODEL



## 900. PROGRAMS OF INSTRUCTION (P01) FOR BASIC ARO/IRO/LM

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-4	Basic Aircraft Loadmaster	189th Airlift
Grp/LRAFB		
5-11	Loadmaster Initial Qualification	34th TATG LRAFB
12-18	Loadmaster Mission Qualification	34th TATG LRAFB
19-33	Combat Capable Training (Weeks 19-22 ARO/IRO/LM Ground Training) (Weeks 23-33 ARO/IRO/LM Flight Training)	Training Squadron
34-39	Combat Ready Training	Tactical Squadron
40-49	Combat Qualification Training	Tactical Squadron
50-54	Full-Combat Qualification Training	Tactical Squadron

901. POI FOR TRANSITION ARO/IRO/LM. Not applicable for this syllabus.

## 902. POI FOR CONVERSION ARO/IRO/LM

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-7	Loadmaster Mission Qualification	34th TATG LRAFB
8-21	Combat Capable Training (Weeks 8-11 ARO/IRO/LM Ground Training) (Weeks 12-21 ARO/IRO/LM Flight Training)	Training Squadron
22-27	Combat Ready Training	Tactical Squadron
28-35	Combat Qualification Training	Tactical Squadron
36-39	Full-Combat Qualification Training	Tactical Squadron

## 903. POI FOR REFRESHER ARO/IRO/LM

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Ground Training	Tactical Squadron
2-9	Combat Capable Training	Tactical Squadron
10-17	Combat Ready Training	Tactical Squadron
18-21	Combat Qualification Training	Tactical Squadron
21-23	Full-Combat Qualification Training	Tactical Squadron

## 904. P01 FOR INSTRUCTOR UNOER TRAINING (IUT)

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1	Standardization Briefings/ Instructor Check Flight	Tactical Squadron
1	Standardization Briefings/ NATOPS Instructor Check Flight	Tactical Squadron
<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
2	Night Systems Instructor/ NSI Certification Flight	MAWTS-1/Tactical Squadron
S	Weapons and Tactics Aircrew/ WATCI Certification Flight	MAWTS-1

## 910. GROUND TRAINING COURSES OF INSTRUCTION

<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
Air Crewmember Candidate School	NAS Pensacola
SERE School	NAS Brnswck/NAS No Is
Air Transportation of Hazardous Cargo School	Regional Activity
A/A32H-4A Dual Rail Maintenance School	Regional Activity
Special Weapons Loading School	AWTU
AATTC	St Joseph, MO
Record of Weight and Balance (1B-40)	Regional Activity

## 912. LOAD SIMULATOR TRAINING (LST)

Aircraft Loading Equipment  
 Aircraft Limitations and Dimensions  
 Aircraft Configurations  
 Aircraft On-Load/Off-Load Procedures  
 Load Tiedown Procedures  
 A/A32H-4A Cargo Handling System and Pallet Loading Procedures  
 Aeromedical Evacuation Configuration and Procedures  
 DASC System Configuration and Loading  
 Rapid Ground Refueling Systems, Procedures, and Safety  
 Load Staging and Weight and Balance Planning

## 913. SQUADRON LEVEL TRAINING

Orientation  
 Emergency Procedures and Equipment  
 Survival Equipment and Techniques  
 Communication Equipment, Procedures, and Duties  
 Loadmaster Equipment, Procedures, and Duties  
 Air Transportation of Hazardous Cargo  
 Limitations, Weight and Balance Planning  
 Aerial Refueling Observer Duties  
 Aerial Delivery Systems, Procedures, Duties and Safety  
 Flare Delivery System, Procedures, and Safety  
 Rapid Ground Refueling Systems, Procedures, and Safety  
 Embarking Unit Coordinator, Load Staging and Movement Control  
 DASC System Configuration  
 Maintenance of Weight and Balance Publications and Records  
 NATOPS Open and Closed Book Examinations

## 920. FLIGHT TRAINING: BASIC LOADMASTER

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Basic Qualification	11	55.0	30.0
Cargo Passenger Loading	0	0	7.0
Aerial Refueling	5	10.0	5.0
Familiarization	3	12.0	4.0
Overwater	5	30.0	5.5
Rapid Ground Refueling Familiarization	0	0.0	0.5
Aerial Delivery	1	1.0	0.5
Basic Qualification Check Flight	1	4.0	7.5
	26	112.0	60.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Cargo and PAX Loading	4	8.0	4.0
Aerial Refueling	3	6.0	2.0
Low Level Navigation	1	1.0	1.0
Aerial Delivery	1	1.0	1.0
Over Water	1	6.0	1.0
Engine Running Off-Load	0	0.0	1.0
Combat Offload	0	0.0	1.0
Rapid Ground Refueling	0	0.0	2.0
Combat Ready Check Flight	1	4.0	2.0
	11	26.0	15.0

## 3. Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Aerial Delivery	4	4.0	5.5
Flare Delivery	1	3.0	2.0
Rapid Ground Refueling	0	0.0	2.0
Night Systems	4	17.0	10.5
	9	24.0	20.0

## 4. Full-Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Altitude Tactics	1	1.0	1.0
Aircraft survivability Equipment	1	1.0	1.0
Defensive Tactics	1	1.0	1.0
Night Systems Qualification	2	4.0	2.0
	5	7.0	5.0
TOTAL	51	169.0	100.0

## 921. CONVERSION LOADMASTER

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Basic Qualification	11	55.0	30.0
Cargo passenger Loading	0	0	7.0
Aerial Refueling	5	10.0	5.0
Familiarization	3	12.0	4.0
Over Water	5	30.0	5.5
Rapid Ground Refueling Familiarization	0	0.0	0.5
Aerial Delivery	1	1.0	0.5
Basic Qualification Check Flight	26	112.0	60.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Cargo and PAX Loading	4	8.0	4.0
Aerial Refueling	3	6.0	2.0

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Level Navigation	1	1.0	1.0
Aerial Delivery	1	1.0	1.0
Over Water	1	6.0	1.0
Engine Running Off-Load	0	0.0	1.0
Combat Offload	0	0.0	1.0
Rapid Ground Refueling	0	0.0	2.0
Combat Ready Check Flight	1	4.0	2.0
	11	26.0	15.0

## 3. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Aerial Delivery	4	4.0	5.5
Flare Delivery	1	3.0	2.0
Rapid Ground Refueling	0	0.0	2.0
Night Systems	4	17.0	10.5
	9	24.0	20.0

## 4. Full-Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Altitude Tactics	1	1.0	1.0
Aircraft Survivability Equipment	1	1.0	1.0
Defensive Tactics	1	1.0	1.0
Night Systems Qualification	2	4.0	2.0
	5	7.0	5.0
TOTAL	51	169.0	100.0

## 922. REFRESHER LOADMASTER

## 1. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Cargo and PAX Loading	4	8.0
Aerial Refueling	3	6.0
Aerial Delivery	1	1.0
Over Water	1	6.0
Engine Running Off-Load	1	0.0
Combat Offload	1	0.0
Rapid Ground Refueling	2	0.0
Low Level Navigation	1	1.0
Check	11	4.0
Total	15	26.0

## 2. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Aerial Delivery	4	4.0
Flare Delivery	1	3.0
Rapid Ground Refueling	0	0.0
Night Systems	4	17.0
	9	24.0

## 3. Full-Combat qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Low Altitude Tactics	1	1.0
Aircraft Survivability Equipment	1	1.0
Defensive Tactics	1	1.0
Night Systems Qualification	2	4.0
	5	7.0
TOTAL	29	57.0

NOTE: \* Indicates estimated flight hours required to completion.

## 923. IUT

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
ARO/ARO/IRO/LM Instructor Check Flight	1	4.0
NATOPS Instructor Check Flight	1	4.0
WTACI Build-up and Certification Flights	1	2.0
NSI Build-up and Certification Flights	1	2.0
TOTAL	4	12.0

## 930. LOAD SIMULATOR TRAINING (LST)

## 1. Cargo and Passenger Loading

a. Purpose. Introduce the ARO/IRO/LM student to all duties as a Marine ARO/IRO/LM on KC-130 cargo and passenger flights. At the end of this phase of instruction the student will demonstrate the ability to:

(1) Preflight and configure an aircraft per mission requirements for flights involving passengers and/or cargo.

(2) Determine available seating and/or cargo space for load planning purposes.

(3) Plan cargo and/or passenger loading to conform with all aircraft and safety limitations PER NAVAIR GAA-9 and NAVAIR 01-75GAA and GAG-1.

(4) Utilize all KC-130 loading aids conforming to the limitations, installations, and usage of each PER NAVAIR 01-75GAA-9.

(5) Safely load and off-load cargo per NAVAIR 01-75GAA-9.

(6) Compute weight and balance for a simulated flight transporting a passenger/cargo payload.

(7) Safely inspect, handle, and transport cargo certified as hazardous material per MCO P4030.19.

(8) Post flight aircraft and perform minor repairs as necessary to return cargo compartment to full operational readiness.

b. General. All qualified instructors may instruct during this phase of training.

c. Ground Training (S Events. 1.0 Hours)

CPL-100

0.0

LST/1 KC-130 S

Goal. Evaluate the ARO/IRO/LM student's ability to load passengers and baggage on a tanker configured aircraft.

Requirement. The student, under the direct supervision of a qualified instructor, will configure a tanker aircraft for a flight transporting the maximum permitted number of passengers and baggage. The student will demonstrate the installation of centerline & sidewall seats and seat spacing configurations. Special emphasis will be placed on maximum loads for overland & over water flights, maximum ramp loads, baggage staging & handling, loading & tie down procedures, and accurate passenger manifesting. A DD Form 365-4 will be prepared by the student with the emphasis placed on accuracy in the take-off & landing conditions, limitations, zero fuel weight, and center of gravity sections. Inflight cargo jettison procedures will be thoroughly explained by the student.

CPL-101

0.0

LST/1 KC-130 S

Goal. Evaluate the ARO/IRO/LM student's ability to load passengers and baggage on a tanker configured aircraft.

Requirement. The student, under the direct supervision of a qualified instructor, will configure an aircraft for a flight transporting passengers and cargo on a tanker configured aircraft with fuselage tank fuel. Emphasis will be placed on preflight inspection and utilization of loading equipment. A DD Form 365-4 will be prepared by the student with the emphasis placed on accuracy in the take-off & landing conditions, limitations, and center of gravity sections. Inflight cargo jettison procedures and the use of the zero fuel weight limitations chart will be thoroughly explained by the student.

CPL-102

0.0

LST/1 KC-130 S

Goal. Evaluate the ARO/IRO/LM student's ability to load palletized cargo and rolling stock on a dual rail equipped aircraft.

Requirement. The student, under the direct supervision of a qualified instructor, will configure an aircraft equipped with dual rails for a flight transporting palletized cargo and rolling stock. Special emphasis will be placed on preflight inspection & operation of the dual rail system, installation & removal of the roller conveyer sections, winch operation, and utilization of a forklift as the primary loading vehicle. A DD Form 365-4 will be prepared by the student with the emphasis placed on accuracy in the take-off & landing conditions, limitations, zero fuel weight, and center of gravity sections. Inflight cargo jettison procedures will be thoroughly explained by the student.

CPL-103

0.0

LST/1 KC-130 S

Goal. Evaluate the ARO/IRO/LM student's ability to load hazardous cargo on a dual rail equipped aircraft.

Requirement. The student, under the direct supervision of a qualified instructor, will conduct an aircraft preflight and configure an aircraft equipped with dual rails for a flight transporting hazardous and general palletized cargo and rolling stock. The student will inspect the load for acceptability for air transportation including: condition of load, certification of hazardous cargo, compatibility of hazardous cargo and compliance with MCO P4030.19. After inspection, the student will prepare and present a load plan demonstrating consideration for separation of noncompatible hazardous cargo, accessibility of tie down points, and ease of loading and off-loading. This load will include mixed cargo to ensure maximum utilization of all loading aids and include cargo that will encourage the student to consider varying dimensions/ limitations. A [DD Form 365-4](#) will be prepared by the student with the emphasis placed on accuracy in the take-off & landing conditions, limitations, zero fuel weight, and center of gravity sections. Inflight cargo jettison procedures will be thoroughly explained by the student.

CPL-104

0.0

E LST/1 KC-130 S

Goal. Phase check.

Requirement. The student, under the direct supervision of a qualified instructor, will plan, stage and load a cargo frame configured aircraft within a 90 minute time limit. The utilization of a load planning sheet is not authorized. The load will consist of passengers and cargo requiring 80 percent of the cargo area to be used. Special emphasis will be placed on preflight inspection and removal of the roller conveyer sections, winch operation, and utilization of loading equipment. A [DD Form 365-4](#) will be prepared by the student with emphasis placed on accuracy in the take-off & landing condition, limitations, zero fuel weight, and center of gravity sections. Inflight cargo jettison procedures will be thoroughly explained by the student.

Prerequisite. All codes in this phase of instruction must be successfully completed prior to this event.

## 940. FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

### 1. General

a. A combat ready ARO/IRO/LM shall be defined as a graduate of the ARO/IRO/LM School. The combat ready ARO/IRO/LM will be qualified to Perform the basic ARO/IRO/LM duties for the following missions: fixed-wing aerial refueling, HF communication procedures, cargo or passenger loading, and aerial delivery.

b. A Conversion ARO/IRO/LM shall be defined as a loadmaster who has served in another model of aircraft within type and is being assigned to a tactical KC-130 squadron for duty for the first time.



All Conversion ARO/IRO/LM must successfully complete the ARO/IRO/LM school and subsequently designated as a 7382.

c. A Refresher ARO/IRO/LM shall be defined as a graduate of the ARO/IRO/LM school, having previously served as an ARO/IRO/LM with a Tactical KC-130 squadron and has been assigned to other duty preventing Tactical currency.

d. Basic ARO/IRO/LM's will complete all stages of training. Conversion ARO/IRO/LM's will complete the basic ARO/IRO/LM course of instruction and all flights indicated with a "C". Refresher ARO/IRO/LM's will complete flights indicated with an "R".

2. Aircrew Coordination. Aircrew coordination shall be briefed for all flights and/or events.

#### 941. COMBAT CAPABLE TRAINING

##### 1. Aerial Refueling

a. Purpose. Train the ARO/IRO/LM student to perform the duties of an inflight refueling observer. At the end of this phase of training the student will be able to:

- (1) Preflight the aircraft PER specific mission requirements.
- (2) Compute and file an accurate weight and balance form for a tanker configured aircraft.
- (3) Perform duties as an inflight refueling observer during hose checks, correctly identifying the status of the system's operation, and coordinating this status with the Flight Engineer.
- (4) Perform duties as an inflight refueling observer during refueling operations, correctly informing the Plane Commander and Flight Engineer of the status of the refueling system & receiver aircraft.
- (5) Keep accurate records of the refueling evolution for turn-in to the operations department.
- (6) Correctly perform all related emergency procedures as necessary.

b. General. All qualified ARO/IRO/LM school instructors may instruct this phase of training.

c. Ground Training. The student will have successfully completed the academic training conducted at the ARO/IRO/LM school.

d. Flight Training (5 Flights. 10.0 Hours)

AR-110                      2.0                      C 1 KC-130    A

Goal. Introduce the ARO/IRO/LM student to the duties of an inflight refueling observer during a day aerial refueling mission.

Requirement. The student, under the direct supervision of a qualified instructor, will complete and file a [DD Form 365-4](#), conduct an aircraft preflight for a Aerial Refueling mission. The student will observe a qualified inflight refueling observer during a day Aerial Refueling mission. The student will keep separate records for comparison at the end of the flight. This flight should involve refueling multiple aircraft. The student should observe from both sides of the aircraft and monitor the ICS and all radio transmissions during the entire evolution. The student will demonstrate a thorough understanding of all aerial refueling terminology.

AR-111                      2.0                      C   1 KC-130   A

Goal. Continue instruction in the duties of an inflight refueling observer during a day fixed-wing aerial refueling mission.

Requirement. The student, under the supervision of a qualified instructor, will complete and file a [DD Form 365-4](#), conduct an aircraft preflight for a fixed-wing aerial refueling mission, and performing the duties of an inflight refueling observer during a day fixed-wing aerial refueling mission. The student will keep separate records for comparison at the end of the flight. This flight should involve refueling multiple aircraft. The student should observe from both sides of the aircraft and monitor the ICS & all radio transmissions during the entire evolution. The student will demonstrate a thorough understanding of all tactical fixed-wing aerial refueling terminology.

Prerequisite. AR-110 must be completed prior to this flight.

HAR-112                      2.0                      C   1 KC-130   A

Goal. Introduce the ARO/IRC/LM student to the duties of an inflight refueling observer during a day Helo aerial refueling mission.

Requirement. The student will complete and file a [DD Form 365-4](#), conduct an aircraft preflight for a Helo Aerial Refueling mission, and observe a qualified inflight refueling observer during a day helicopter aerial refueling mission. The student will keep separate records for comparison at the end of the flight. This flight should involve refueling multiple aircraft. The student should observe from both sides of the aircraft and monitor the ICS & all radio transmissions during the entire evolution. The student will demonstrate a thorough understanding of all Helo Aerial Refueling terminology.

AR-113                      2.0                      C   1 KC-130   A

Goal. Continue instruction of the duties of an inflight refueling observer during a day aerial refueling mission.

Requirement. The student, under the limited supervision of a qualified instructor, will complete and file a [DD Form 365-4](#), conduct an aircraft preflight for a Aerial Refueling mission. The student will observe a qualified inflight refueling observer during a day Aerial Refueling mission. The student will keep separate records for comparison at the end of the flight. This flight should involve refueling multiple aircraft. The student should observe from both sides of the aircraft and monitor the ICS and all radio transmissions during the entire evolution. The student will demonstrate a thorough understanding of all aerial refueling terminology.

Prerequisite. AR-112 must be completed prior to this flight.

AR-114                      2.0                      C   E   1 KC-130   A

Goal. Phase check.

Requirement. The ARO/IRO/LM student will perform the duties of an inflight refueling observer during a day aerial refueling mission. Emphasis will be placed on correct terminology, safety, emergency procedures, ICS, discipline, and crew coordination during all phases of the flight.

Prerequisite. All flights in this phase of instruction must be accomplished prior to this flight.

Performance Standard. This flight evaluation will be conducted PER NATOPS and the NAVAIR 00-80T-110.

## 2. Familiarization

a. Purpose. Train the ARO/IRO/LM student to perform the basic NATOPS flight crew requirements, aircraft preflight preparation, cargo loading equipment use and storage, aircraft limitations and dimensions, location and use of emergency equipment, ground and inflight emergency procedures, and aircraft postflight procedures. Instructions will be provided to the student demonstrating the location/conduct of the aircrew mission brief, the proper filing of the weight and balance form, [DD Form 365-4](#), and galley preparations for a flight. At the end of this stage of training the student will be able to:

(1) Participate in an aircrew mission brief, determine the special needs for the flight, and plan an aircraft configuration accordingly.

(2) Coordinate with other crewmembers to ensure safe and timely conduct of the flight.

(3) Conduct a proper preflight inspection of the aircraft, identifying and correcting any discrepancies, and noting location/weights of equipment for the completion of [DD Form 365-4](#).

(4) Properly configure the aircraft PER aircrew mission brief and mission requirements.

(5) Properly compute a [DD Form 365-4](#) with special emphasis placed on accuracy of fuel distribution and amount, aircrew position within the aircraft, computation for emergency and extra equipment, and cargo/passenger load.

(6) Demonstrate a thorough knowledge of the ICS system, loss operation, and circuit discipline.

(7) Demonstrate the proper responses and perform all duties required during an inflight emergency PER section V of NATOPS.

(8) Conduct a proper aircraft post flight.

(9) Properly complete and file all related paperwork.

b. General. All qualified ARO/IRO/LM school instructors may instruct during this phase of training.

c. Ground Training. Prior to FAM-117 (phase check) the student will have completed academic training at the ARO/IRO/LM school.

d. Flight Training (3 Flights. 12.0 Hours)

FAN-115            4.0            C   1 KC-130   A

Goal. Introduce the ARO/JRO/LM student to standard NATOPS procedures, duties and responsibilities during normal operations, to include inflight and ground emergencies.

Requirement. The student will demonstrate a thorough knowledge of all cargo compartment limitations to include; treadway limitations, deck limitations, tie down restraint criteria & formulas, pallet position limits, ramp limitations, maximum seating configurations, PSI limits, shoring requirements, cargo compartment height & width limitations, and the use of all applicable loading charts. The student will demonstrate the NATOPS procedures for ground evacuation, bailout, and inflight door open warning. Additionally, under the direct supervision of a qualified instructor, the student will observe and perform the following:

- (1) Attend the pilot/aircrew brief.
- (2) Check the aircraft maintenance log for pertinent entries.
- (3) Conduct a standard aircraft preflight.
- (4) Complete and file a [DD Form 365-4](#).
- (5) Demonstrate the use of all emergency equipment.
- (6) Handle simulated emergency procedures per NATOPS.
- (7) Locate and operate the applicable 105 system.
- (8) Demonstrate takeoff/landing procedures and responsibilities.
- (9) Conduct a standard aircraft post flight.
- (10) Demonstrate emergency and manual extension of the main and nose landing gear.
- (11) Demonstrate main landing gear tie down procedures for tanker and cargo configured aircraft.

FAM-116 4.0 C 1 KC-130 A

Goal. Continue instructions on standard NATOPS procedures, duties, and responsibilities during normal operations to include inflight and ground emergencies.

Requirement. The student, under the direct supervision of a qualified instructor, will brief and prepare for a standard flight. A thorough knowledge for the use of all cargo loading aids will be demonstrated by the student. Additionally, the student will demonstrate the NATOPS procedures for fuselage fire, smoke and fume elimination, rapid decompression, and flap system failure. The student will prepare the aircraft for (simulated) cargo jettison.

Prerequisite. FAM-115 must be completed prior to this flight.

FAM-117 4.0 C E 1 KC-130 A

Goal. Phase check.

Requirement. The student, under the direct supervision of a qualified instructor, will perform the immediate action steps (\* indicated items) for the following emergencies:

- (1) Ground evacuation.
- (2) Bailout.
- (3) Inflight door open warning.
- (4) Fuselage fire.
- (5) Smoke and fume elimination.
- (6) Rapid decompression.

Prerequisite. FAM-116 must be completed prior to this flight.

Performance Standard. This flight evaluation will be conducted PER NATOPS.

### 3. Aerial Delivery

a. Purpose. Introduce the ARO/IRO/LM to airdrop checklist procedures, rigging and crew responsibilities for an aerial delivery mission.

b. General. This training will be conducted by an ARO/IRO/LM school instructor.

c. Ground Training. Prior to flight training, instruction and a demonstration of rigging PER NAVAIR 01-75GAA-9 shall be conducted. In addition the General Aerial Delivery Preparation lesson from the MAWTS-1 ASP shall be presented.

d. Flight Training (1 Flight. 1.0 Hour)

AD-140                    1.0                    C   1 KC-130 A

Goal. Introduce the student to the procedures for an aerial delivery mission.

Requirement. The student will perform the brief, aircraft rigging and load deployment. In addition, all emergency procedures for this mission will be discussed in detail. personnel static line AD is required to complete this code.

#### 4. Over Water HF Communication

a. Purpose. Train the ARO/IRO/LM student in HF communication equipment operation, procedures, relaying agencies, frequency selection, and ARQ/IRO/LM responsibilities during over water flights. Specifically at the completion of this phase of instruction the student will be able to:

- (1) Conduct an operational check of aircraft HF communication equipment.
- (2) Troubleshoot and perform minor maintenance on HF equipment.
- (3) Prepare an aircraft for an over water flight in respect to emergency equipment requirements.
- (4) Correctly operate all HF communication equipment.
- (5) Select a frequency based on time of day and distance to the controlling agency.
- (6) Conduct over water HF communications including initial contact reports, compulsory enroute position reports, position report revisions, phone patches through USAF GCCS stations, be able to relay traffic to or from other aircraft, obtain and/or request inflight clearances, and prepare an enroute distress message for transmission.
- (7) Identify and monitor published guard channels on applicable radios.
- (8) Correctly react to a ditching situation.

b. General. All qualified ARO/IRO/LM school instructors may instruct during this phase of training.

c. Ground Training. Prior to this phase of instruction the student will have completed the academic training at the ARO/IRO/LM school.

#### d. Flight Training (5 Flights 30.0 Hours)

OW-150                    6.0                    C   1 KC-130 A

Goal. Introduce the student to HF equipment and procedures, troubleshooting and repairs, initial contact and compulsory position reports, phone patches, distress messages, guard monitoring, and over water crew coordination.

Requirement. The student<sup>1</sup> under the direct supervision of a qualified instructor, will compute/file a DD Form 365-4, conduct an appropriate aircraft preflight, and conduct an operational check of all HF communication equipment. The student will observe and monitor the HF transmission of an initial contact report, enroute position reports, position report revisions, clearance copying, preparation of a distress message, and the preparation of all flight related documentation. Additionally the student will receive instructions on the proper response to a simulated ditching and a simulated over water bailout drill.

OW-151

6.0 C 1 KC-130 A

Goal. Continue instructions on over water HF communication procedures and equipment.

Requirement. The student, under the direct supervision of a qualified instructor, will compute/file a DD Form 365-4, conduct an appropriate aircraft preflight, conduct an operational check of all HF communication equipment, perform the HF transmission of an initial contact report, enroute position reports, position report revisions, clearance copying, preparation of a distress message, and the preparation of all flight related documentation. The student will properly respond to a simulated ditching and a simulated over water bailout drill. Additionally, the student will receive instruction on lost HF communication procedures and ditching duties on flights involving passengers.

Prerequisite. OW-150 must be completed prior to this flight.

OW-152

6.0 C 1 KC-130 A

Goal. Continue instructions on over water HF communication procedures and equipment.

Requirement. The student, under the supervision of a qualified instructor, will compute/file a DD Form 365-4, conduct an appropriate aircraft preflight, conduct an operational check of all HF communication equipment, perform the HF transmission of an initial contact report, enroute position reports, position report revisions, clearance copying, preparation of a distress message, and the preparation of all flight related documentation. The student will perform these duties without any pre-guidance from the instructor. The student will employ the concepts of crew coordination in the accomplishment of his assigned tasks. The student will properly respond to simulated lost HF communication procedures and ditching duties on flights involving passengers. Additionally, the student will receive instruction on ditching duties on flights involving cargo (cargo jettison).

Prerequisite. OW-151 must be completed prior to this flight.

OW-153

6.0 C 1 KC-130 A

Goal. Review all instructions on over water HF communication procedures and equipment.

Requirement. The student will conduct the entire sortie with minimum instructor assistance and/or supervision. The student will employ the concepts of crew coordination in the accomplishment of his assigned tasks. The student will properly respond to simulated lost HF communication procedures, ditching duties on flights involving passengers and cargo, and a simulated over water bailout drill.

Prerequisite. OW-152 must be completed prior to this flight.

OW-154                      6.0                      C   E   1 KC-130   A

Goal. Phase check.

Requirement. The student will perform all duties required of an ARO/IRO/LM on an over water flight.

Prerequisite. OW-153 must be completed prior to this flight.

Performance Standard. This flight evaluation will be conducted PER NATOPS.

## 5. Rapid Ground Refueling

a. Purpose. Introduce the ARO/IRO/LM to plan, identify the required equipment, set up, and break down the rapid ground refueling system for rotary and fixed-wing aircraft.

b. General. This phase of training will be conducted by an ARO/IRQ/LM school instructor.

c. Ground Training. Prior to this phase of instruction the student will have completed the academic training at the ARO/IRO/LM school.

d. Ground Training (1 Event, 0.0 Hours)

RGR-170                      0.0                      C   LST/1 KC-130   S

Goal. Introduce the student to the procedures for a 2 Point RGR set up.

Requirement. The student will observe: a preflight, set up, and simulate a 2 point RGR operation. Instruction will include the inspection of all RGR equipment, breakdown of refueling points, and related post flight duties.

## 6. Basic Qualification Check Flight

a. Purpose. Determine that the student has achieved the minimum NATOPS requirements for an ARO/IRO/LM.

b. General

(1) The flight portion of this evaluation shall be accomplished on a multi-leg flight.

(2) A VMGRT-253 designated KC-130 NATOPS instructor shall evaluate this flight.



## KC-130 FLIGHT ENGINEER CORE PROGRESSION MODEL

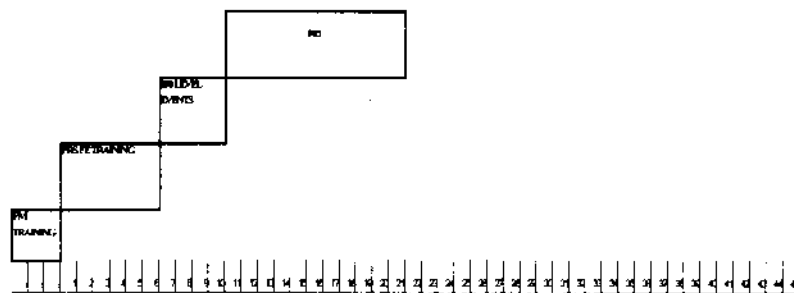


Fig.--Flight Engineer Notional training Progression Model

c. Ground Training. The student will complete all previous Combat Capable training codes prior to this flight. The student must successfully complete the NATOPS open and closed book examinations prior to this flight.

d. Flight Training (1 Flight. 4.0 Hours)

CK-190                      4.0                      C E 1 KC-130 A

Goal. Qualify the student as a Combat Capable ARO/IRO/LM in the KC-130 aircraft.

Requirement. The student will demonstrate the ability to meet NATOPS requirements for designation as a Combat Capable ARO/IRO/LM in the KC-130 aircraft. This sortie will be conducted on a multi-leg flight.

Performance Standard. This flight evaluation will be conducted PER NATOPS.

942. COMBAT READY TRAINING

1. Cargo and Passenger Loading

a. Purpose. Qualify the Conversion/Refresher loadmaster, or to maintain proficiency for the CPL qualified loadmaster to perform all duties of a loadmaster on KC-130 cargo and passenger flights. The loadmaster will perform the below listed requirements for each flight in this series.

(1) Preflight and configure an aircraft PER mission requirements on flights involving passengers and/or cargo.

(2) Determine available seating and/or cargo space for load planning purposes.

(3) Plan cargo and/or passenger loading to conform with all aircraft/ safety limitations PER NAVAIR GAA-9 and NAVAIR 01-75GAA and GAG-1.

(4) Utilize all KC-130 loading aids conforming to the limitations, installations, and usage of each PER NAVAIR 01-75GAA-9.

(5) Brief passengers as required PER NAVAIR 01-75GXX and GAG-1.

(6) Load passengers and/or cargo PER NAVAIR 01-75GAA-9.

(7) Compute and file weight and balance for a flight involving passengers.

(8) Provide passenger comfort/safety provisions during flight.

(9) Safely off-load passengers and/or cargo PER NAVAIR 01-75GAA-9.

(10) Maintain, file and disseminate as required, flight documentation, including passenger/cargo manifests and TCMD's.

(11) Postflight aircraft and perform minor repairs as necessary to return cargo compartment to full operational readiness.

b. General. Conversion/Refresher loadmasters shall be accompanied by a qualified loadmaster instructor.

## c. Flight Training (4 Flights, 8.0 Hours)

CPL-200 2.0 C,R 1 KC-130 A/S

Goal. Qualify the ARO/IRO/LM, or to maintain the proficiency of the CPL qualified ARO/IRC/LM, for logistics flights.

Requirement. The ARO/IRO/LM, with limited instruction, will configure an aircraft PER mission requirements. Emphasis will be placed on weight and balance, accurate passenger manifesting, and baggage staging and loading safety. Review maximum passenger load configurations, seating arrangements and litter arrangements. This sortie may be conducted on a tanker configured aircraft. This sortie will be used for the maintenance of proficiency for CPL qualified loadmasters for logistics flights.

CPL-201 2.0 C,R 1 KC-130 A/S

Goal. To Qualify the ARO/IRO/LM, or to maintain the Proficiency of the CPL qualified ARO/IRO/LM, for flights carrying hazardous materials.

Requirement. Qualify the ARO/IRO/LM, with limited instruction, will load-plan, stage, load, tie down, and offload a mixed cargo load consisting of both rolling stock and general cargo. At least 80% of the available cargo space should be used. Review inflight cargo jettison, hazardous material handling procedures. This sortie will be used for the maintenance of proficiency for CPL qualified loadmasters for logistic flights.

CPL-202 2.0 C~R 1 KC-130 A/S

Goal. Qualify the ARO/IRO/LM, or to maintain the proficiency of the CPL qualified ARO/IRO/LM, for flights carrying mixed cargo/passengers.

Requirement. The ARO/IRO/LM, with limited instruction, will perform the duties of a loadmaster on a flight carrying a mixed cargo/passenger load. Emphasis will be placed on loading safety, load planning to ensure adequate seating, safety aisles, access to emergency exits, and accurate passenger/cargo manifesting. This sortie will be used for the maintenance of proficiency for CPL qualified loadmasters for mixed cargo or hazardous material/passenger flights.

CPL-203 2.0 C.R 1 KC-130 A/S

Goal. To maintain currency and proficiency for the CPL qualified ARO/IRO/LM, for logistics flights.

Requirement. This sortie will be used for the maintenance of proficiency and currency for CPL qualified loadmasters for logistic flights.

## 2. Aerial Refueling

a. Purpose. Continue instruction on the duties of an inflight refueling observer, or to maintain proficiency for the A/R qualified ARO/IRO/LM, specifically during tactical refueling mission.

b. General. All initial qualification loadmasters shall be accompanied by a qualified loadmaster instructor.

c. Ground Training. Prior to flying each sortie in this phase, instruction will be given from the applicable section in the NATOPS Air to Air Refueling Manual.

d. Flight Training (3 Flights. 6.0 Hours)

AR-210                      2.0                      C.R   1 KC-130   A

Goal. Continue instruction in aerial refueling, or to maintain proficiency in day fixed-wing or rotary-wing AR for AR qualified IRO's.

Requirement. The loadmaster will perform duties of an inflight refueling observer during a day AR, refueling fixed-wing or rotary wing tactical aircraft. Emphasis will be on correct terminology, safety, emergency procedures, ICS discipline, and crew coordination during all phases of the operation. This sortie will be used for the maintenance of proficiency in day fixed-wing or rotary-wing AR for AR qualified IRO's.

AR-211                      2.0                      C.R   1 KC-130   A   N

Goal. Qualify the ARO/IRO/LM in fixed-wing or rotary-wing aerial refueling procedures, or to maintain proficiency in night fixed-wing or rotary-wing AR for AR qualified IRO's.

Requirement. This sortie will be a night aerial refueling operation. The loadmaster will attend a pilot/aircrew brief covering visual problems and emergency procedures. Emphasis will be placed on crew coordination, LOS/radio discipline, and emergency procedures. This sortie will be used for the maintenance of proficiency in night fixed-wing or rotary-wing AR for AR qualified IRO's.

Prerequisite. AR-210.

AR-212                      2.0                      C.R   1 KC-130   A   (N)

Goal. Introduce the loadmaster to EMCON aerial refueling, or maintain proficiency in EMCON AR for AR qualified IRO's. Requirement. This sortie will utilize EMCON Refueling procedures. The loadmaster will attend a pilot/aircrew brief and coordinate with all other aircrew positions prior to the flight. EMCON procedures and standard signals will be PER AR manual/TAO Manual. This sortie will be used for the maintenance of proficiency in EMCON AR for AR qualified IRO's.

Prerequisite. AR-210 or AR-211.

3. Low Level (LL)

a. Purpose. Qualify the loadmaster, or to maintain proficiency for the LL qualified loadmaster, in the unique tasks and requirements associated with low level flights.

b. General. This phase of instruction may be taught by a LL qualified Loadmaster instructor.

c. Flight Training (1 Flight, 1.0 Hour)

LLNAV-220            1.0            C.R E    1 KC-130    A

Goal. Introduce and qualify the loadmaster, or to maintain proficiency for the LL qualified loadmaster, in the duties of an aft lookout during a Low Level mission. Requirement. The loadmaster will perform the duties of an aft lookout during a low level mission. Emphasis will be placed on cargo compartment preparation, crew briefing, lookout doctrine, scan for threats and terrain clearance, crew coordination and combat entry/exit checklists. This event may include air-to-air refueling, aerial delivery or any type of air/land delivery.

3. Aerial Delivery

a. Purpose. Introduce the loadmaster to airdrop checklist procedures, rigging, and combination aerial delivery of personnel plus CDS, CRRC, or HE, or to maintain proficiency for the AD qualified loadmaster.

b. General. Initial training shall be conducted by an AD qualified loadmaster instructor.

c. Ground instruction. Prior to flight training, instruction and a demonstration in the rigging of combo AD PER NAVAIR 01-75GAA-9 will be given, and the appropriate lessons from the MAWTS-1 ASP shall be presented.

d. Flight Training (1 Flight. 1.0 Hour)

AD-240            1.0            C R 1 KC-130    A

Goal. Introduce and qualify the loadmaster, or to maintain proficiency for the Combo AD qualified loadmaster, in the duties of a primary LM in combination airdrop.

Requirement. Under the supervision of an aerial delivery qualified ARO/IRO/LM Instructor, the loadmaster under training will act as the primary loadmaster during a combination airdrop of CDS, HE, or CRRC and personnel. The loadmaster will preflight, rigg, brief, load, execute and coordinate emergency procedures. Emphasis shall be placed on execution checklists, CDS emergency procedures and towed parachutist procedures. Use of the BSA and CVR for CDS Combo is encouraged when available.

Prerequisite. Academic training PER the MAWTS-1 loadmaster ASP for General A/C Prep and Combination/CRRC Airdrop shall be completed prior to this event.

External Syllabus Support. Aerial Delivery Platoon, Landing Support Battalion, FSSG, or similar sister service support, will be required to support this event with A-22 containers or A/D platforms, parachutists, JI and DZ control during this event.

4. Overwater HF Communication

a. Purpose. Qualify the Conversion/Refresher loadmaster, or to maintain proficiency for the OW qualified loadmaster, in the operation of HF communication equipment, procedures, relaying agencies, frequency selection, and loadmaster responsibilities during over water flights.

b. Flight Training (1 Flight. 6.0 Hours)

OW-250                      6.0                      C.R    1 KC-130    A

Goal. Qualify the Conversion/Refresher ARO/IRO/LM in over water flights, or to maintain proficiency in OW flights for OW qualified loadmasters.

Requirement. The Conversion/Refresher ARO/IRO/LM, with limited instruction, will demonstrate all HF communications procedures required during over water flights. This sortie will be used for the maintenance of proficiency in OW communications for OW qualified loadmasters.

## 5. Engine Running Offload

a. Purpose. Qualify the loadmaster, or to maintain proficiency for the ERG qualified ARO/IRO/LM, in Engine Running Off load/Onload procedures for personnel/cargo.

b. General

(1) This stage of training shall be instructed by an ERG qualified ARO/IRO/LM Instructor.

(2) The sortie may be flown as part of the curriculum at the Loadmaster Initial Qualification Course and successful completion of the LIQ course will be considered as qualification in this stage.

c. Ground Training. The TLZ Operations lesson from the MAWTS-1 ASP shall be presented prior to flight training for non LIQ graduates.

d. Flight Training (1 Flight. 1.0 Hour)

ERO-270                      0.0                      C.R        1 KC-130 A/S    (N)

Goal. Qualify the ARO/IRO/LM in Engine Running Offload/Onload procedures, or to maintain proficiency in ERG for ERO qualified ARO/ IRO/LM.

Requirement. The ARO/IRO/LM will demonstrate the ability to prepare the cargo compartment for TLZ operations and safely and expeditiously conduct an Engine Running Offload/Onload, and direct the pilot in an aircraft reverse taxi maneuver.

Performance Standard. PER TACMAN.

## 6. Combat Offload.

a. Purpose. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the current qualified ARO/IRO/LM, in combat offload methods and procedures.

b. General

(1) This stage of training may be accomplished either as squadron training or as part of the curriculum at the Loadmaster Mission Qualification Course.

(2) Successful completion of the Loadmaster Mission Qualification Course will be considered as qualification for this phase of training.

c. Ground Training. Instruction in combat off-load shall be conducted PER the MAWTS-1 ASP prior to this sortie for non-LMQ graduates.

d. Flight Training (1 Flight. 1.0 Hour)

COL-271            0.0            C,R      1 KC-130 A/S    (N)

Goal. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the COL qualified ARO/IRO/LM, in procedures and methods of combat offload.

Requirement. The ARO/IRO/LM will demonstrate procedures for preparation of the cargo compartment for TLZ operations and offloading either a single or multiple single pallets. The off load of both a ramp and cargo floor pallets is encouraged.

## 6. Rapid Ground Refueling

a. Purpose. Introduce the ARO/IRO/LM to plan, load the required equipment, set up, and conduct a rapid ground refueling for either rotary or fixed-wing aircraft.

b. General. This phase of training shall be conducted by an RGR qualified ARO/IRO/LM Instructor.

c. Ground Training. Prior to flight training, instruction shall be conducted PER the MAWTS-1 ASP for RGR.

d. Flight Training (2 Flights, 2.0 Hours)

RGR-272            0.0            C R 1 KC-130 A/S

Goal. Continue instruction on RGR procedures during a day evolution refueling either rotary or fixed-wing aircraft.

Requirement. The ARO/IRO/LM will assist the instructor in the conduct of a daytime RGR, minimum 2 point setup, including an actual transfer of fuel to either rotary-wing or fixed-wing aircraft. Instruction will be given on inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will man, and perform all duties associated with manning, a refueling point during the fuel transfer portion(s) of the RGR evolution.

RGR-273            0.0            C R 1 I(C-130 A/S N

Goal. Continue instruction on RGR procedures during a night evolution refueling either fixed or rotary-wing aircraft.

Requirement. The ARO/IRO/LM will assist the instructor in the conduct of a night RGR, minimum 2 point setup, including an actual transfer of fuel to either rotary-wing or fixed-wing aircraft. Instruction will be given on inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will man, and perform all duties associated with manning, a refueling point during the fuel transfer portion(s) of the RGR evolution.

## 7. NATOPS Progress Check

a. Purpose. Determine that the minimum NATOPS requirements for a Combat Ready ARO/IRO/LM have been met.

### b. General

(1) Flight shall be accomplished on a multi-leg, mixed cargo/passenger flight.

(2) A designated KC-130 F/R/T NATOPS instructor will evaluate this flight.

c. Ground Training. The ARO/IRO/LM must successfully complete NATOPS open and closed-book examinations prior to this flight.

### d. Flight Training (1 Flight. 4.0 Hours)

CK-290                      4.0                      C.R E 1 KC-130 A (N)

Goal. Qualify the ARO/IRO/LM as a Combat Ready ARO/IRO/LM in the KC-130 aircraft.

Requirement. The ARO/IRO/LM will demonstrate the ability to meet NATOPS requirements for designation as Combat Capable ARO/IRO/LM in the KC-130 FIRIT aircraft. This sortie will be a multi-leg, mixed cargo/passenger flight.

Performance Standard. PER NFM Section X.

## 943. COMBAT QUALIFICATION TRAINING

### 1. Aerial Delivery

a. Purpose. Introduce the ARO/IRO/LM, or to maintain proficiency in his duties during an aerial delivery mission.

### b. General

(1) This stage of training shall be instructed by an aerial delivery qualified ARO/IRO/LM Instructor.

(2) These sorties may be flown as part of the curriculum at the ARO/IRO/LM Mission Qualification Course and successful completion will be considered as qualification in those sorties within this stage which were completed at the LMQ course.

c. Ground Training. The sorties shall be preceded by the successful completion of the Loadmaster Mission Qualification course or local squadron training PER the MAWTS-1 ASP.



## d. Flight Training (4 Flights 4.0 Hours)

AD-340 1.0 C R 1 KC-130 A

Goal. Introduce and qualify, or to maintain proficiency for the ARO/IRO/LM in personnel static line airdrop.

Requirement. Under the supervision of an aerial delivery qualified ARO/IRO/LM Instructor, the ARO/IRO/LM will act as the primary ARO/IRO/LM during a static line personnel airdrop from the ramp or paratroops door. The ARO/IRO/LM will assist in preflight, rigging, briefing, loading, execution and emergency procedures. Emphasis shall be placed on execution checklists and towed parachutists emergency procedures.

prerequisite. Academic training PER the MAWTS-1 ASP for General A/C Prep and personnel Airdrop shall be completed prior to this event.

External Syllabus Support. Parachutists from AD Platoon, ANGLICO or another external unit will be required for completion of this event.

AD-341 1.0 C R 1 KC-130 A

Goal. Introduce and qualify, or to maintain proficiency for the ARO/IRC/LM in container delivery system airdrop.

Requirement. Under the supervision of an aerial delivery qualified ARO/IRO/LM Instructor, the ARO/IRO/LM will act as the primary loadmaster during a container delivery system airdrop. The ARO/IRO/LM will assist in preflight, rigging, briefing, loading, execution and emergency procedures. Emphasis shall be placed on execution checklists and CDS emergency procedures. Use of the BSA and CVR is encouraged if available.

Prerequisite. Academic training PER the MAWTS-1 ASP for General A/C Prep and CDS Airdrop shall be completed prior to this event.

External Syllabus Support. Aerial Delivery Platoon, Support Battalion, FSSG, or similar sister service support, will be required to support this event with A-22 containers, JI and DZ control.

AD-342 1.0 C, R 1 KC-130 A

Goal. Introduce and qualify, or maintain proficiency for the ARO/IRO/LM in heavy equipment extraction airdrops.

Requirement. Under the supervision of an aerial delivery qualified ARO/IRO/LM Instructor, the ARO/IRO/LM will perform the duties as loadmaster during a heavy equipment extraction airdrop. The ARO/IRO/LM will assist in preflight, rigging, briefing, loading, execution and emergency procedures. Emphasis shall be placed on execution checklists and HE emergency procedures. This event may utilize single or sequential platforms.

Prerequisite. Academic training PER the MAWTS-1 loadmaster ASP for General A/C Prep and HE Airdrop shall be completed prior to this event.

External Syllabus Support. Aerial Delivery Platoon, Support Battalion, FSSG, or similar sister service support, will be required to support this event with equipment platforms, JI and DZ control.

AD-343                      1.0                      C.R                      1 KC-130                      A                      (N)

Goal. Qualify the ARO/IRO/LM in high altitude airdrop of personnel or equipment, or to maintain proficiency for the high altitude A/D qualified loadmaster.

Requirement. Under the supervision of an aerial delivery qualified ARO/IRO/LM Instructor, the ARO/IRO/LM under training will demonstrate mastery of all aspects of high altitude military freefall airdrop from the ramp or paratroop door, or high altitude equipment airdrop while acting as the primary loadmaster. The ARO/IRO/LM under training will preflight, rig, briefing load, and execute a high altitude aerial delivery PER the TACMAN. This mission must be conducted above 10,000 ft MSL.

External Syllabus Support. Aerial Delivery Platoon, Support Battalion, FSSG, or similar sister service support, will be required to support this event with A-22 containers, A/D platforms, and/or parachutists, JI and DZ control during this event.

## 2. Flare Delivery

a. Purpose. Introduce the ARO/IRO/LM to flare delivery procedures and the battlefield illumination mission.

b. General. This phase will be instructed by a Flare Delivery and A/D qualified ARO/IRO/LM Instructor.

c. Ground Training. Flight training shall be preceded by instruction PER the MAWTS-1 ASP.

d. Flight Training (2 Flight. 3.0 Hours)

FD-344                      3.0                      C R 1 KC-130                      A                      (N)

Goal. Introduce aircraft preflight, configuration, rigging, loading and mission execution procedures for the battlefield illumination mission and qualify the LM as a team member/team leader.

Requirement. Under the direct supervision of a qualified ARO/IRO/LM Instructor, the ARO/IRO/LM will load, secure and rig for emergency jettison the flare delivery system PER current TACMAN procedures. The instructor will first demonstrate the loading and operation of the flare dispenser, and then supervise the ARO/IRO/LM under instruction as he fulfills the duties as a flare team member. Emphasis will be placed on crew coordination, safety precautions and emergency procedures.

FD-345 0.0 C.R 1 KC-130 A (N)

Goal. Qualify the ARO/IRO/LM, or to maintain proficiency for the flare delivery qualified ARO/IRO/LM, in aircraft preflight, configuration, rigging, loading and mission execution procedures for the battlefield illumination mission.

Requirement. Under the direct supervision of a qualified Aro/iro/lm Instructor, the ARO/IRO/LM will load, secure and rig for emergency jettison the flare delivery system PER current TACMAN procedures. The ARO/IRO/LM will fulfill the duties of the senior ARO/IRO/LM (QA/SO) for the entire flight. Emphasis will be placed on mission planning, flare team tasking and briefing, crew coordination, safety precautions and procedures.

emergency

prerequisite. FD-344, Ordinance Certification as QA/SO.

### 3. Rapid Ground Refueling

a. Purpose. Qualify the ARO/IRO/LM, or to maintain proficiency for the RGR qualified ARO/IRO/LM, to plan, load the required equipment, set up, and conduct a rapid ground refueling for either rotary or fixed-wing aircraft.

b. General. This phase of training shall be conducted by an RGR qualified Aro/iro/lm Instructor.

c. Ground Training. Prior to flight training, instruction shall be conducted PER the MAWTS-1 ASP for RGR.

d. Flight Training (2 Flights. 2.0 Hours)

RGR-370 1.0 C.R 1 KC-130 A

Goal. Qualify the ARO/IRO/LM, or to maintain proficiency for the RGR qualified ARO/IRO/LM, in RGR procedures during a day evolution refueling either rotary or fixed-wing aircraft.

Requirement. The ARO/IRO/LM, under the supervision of a qualified ARO/IRO/LM Instructor, will plan and execute a daytime RGR, minimum 2 point setup, including an actual transfer of fuel to either rotary-wing or fixed-wing aircraft. The ARO/IRO/LM will demonstrate thorough knowledge of the inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will perform all duties associated with those of the Senior ARO/Iro/LM, Refueling Supervisor (RS).

RGR-371 1.0 C.R 1 KC-130 A N

Goal. Qualify the ARO/IRO/LM, or to maintain proficiency for the RGR qualified ARO/IRO/LM, in RGR procedures during a night evolution refueling either fixed or rotary-wing aircraft.

Requirement. The ARO/IRO/LM, under the supervision of a qualified ARO/IRO/LM Instructor, will plan and execute a night RGR, minimum 2 point setup, including an actual transfer of fuel to either rotary-wing or fixed-wing aircraft. The ARO/IRO/LM will demonstrate thorough knowledge of the inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will perform all duties associated with those of the Senior ARO/IRO/LM/Refueling Supervisor (RS)

#### 4. Initial Night Systems qualification (NSO)

a. Purpose. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the initial NSQ qualified ARO/IRO/LM, in night systems employment.

##### b. General

(1) This phase of instruction shall be conducted at light levels .0022 lux or above.

(2) This phase of instruction shall be conducted by an NSI ARO/IRO/LM.

(3) NVG time logged as part of NITE Lab will count toward NSQ qualification.

c. Ground Training. Ground training will be successfully completed PER the following.

(1) NITE Lab.

(2) NVD use ASP.

(3) Aro/iro/lm NVG Operations.

##### d. Static Training (3 Periods. 9.0 Hours)

SNSO-380	3.0	C.R	1 KC-130 A/S N
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Goal. Introduce the ARO/IRO/LM to the special tasks and difficulties associated with the conduct of TLZ operations utilizing NVDS.

Requirement. Under the direction of a qualified NSI ARO/IRO/LM, the ARO/IRO/LM under training while utilizing night vision goggles, will conduct aircraft preflight and prepare the cargo compartment for blackout conditions. Additionally, while utilizing NVG's, the ARO/IRO/LM under training will conduct all preflights, loading and rigging required to prepare the aircraft for night operations of transporting cargo. Emphasis will be placed on NVG compatible lighting for aided and unaided troops, and the additional time required when utilizing NVG's. It is preferred to conduct this event on a darkened flight line or a dark portion of the airfield.

Prerequisite. Ground training PER the MAWTS-1 NVD use and ARO/IRO/LM ASPs.

SNSQ-381

3.0

C R 1 KC-130 A/S N

Goal. Introduce the ARO/IRO/LM to the special tasks and difficulties associated with the conduct of RGR procedures during a night evolution refueling, either fixed or rotary-wing aircraft.

Requirement. Under the direction of a rapid ground refueling qualified NSI ARO/IRO/LM the ARO/IRO/LM while utilizing night vision goggles will conduct a night RGR, minimum 2 point setup. Instruction will be given on inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will man, and perform all duties associated with manning, a refueling point.

Prerequisite. Ground training PER the MAWTS-1 ARO/IRO/LM ASP for night systems and qualification in RGR-371 is required to this event.

SNSO-382

3.0

C,R 1 KC-130 S N

Goal. Introduce the ARO/IRO/LM to the special tasks and difficulties associated with the conduct of an aerial delivery mission utilizing night systems.

Requirement. Under the direction of an aerial delivery qualified NSI ARO/IRO/LM, the ARO/IRO/LM under training while utilizing night vision goggles, will conduct aircraft preflight and prepare the cargo compartment for blackout conditions. Additionally, while utilizing NVG's, the ARO/IRO/LM under training will conduct all preflights, loading and rigging required to prepare the aircraft for any type airdrop. This training evolution will be conducted only with the use of infrared lighting. Emphasis will be placed on NVG compatible lighting and the additional time required when utilizing NVD's. It is preferred to conduct this event on a darkened flight line or a dark portion of the airfield.

Prerequisite. Academic training PER the MAWTS-1 NVG use and ARO/IRO/LM Operations ASP's and qualification in AD-340, AD-341, AD-342, and AD-343.

External Syllabus Support. Aerial Delivery Platoon, Support Battalion, FSSG, may be required to support this event with A-22 containers or platforms, or temp loan containers or platforms for use during this event.

e. Flight Training (7 Flights. 13.0 Hours)

NSO-383

2.0

C.R 1 KC-130 A N

Goal. Introduce the ARO/IRO/LM, or to maintain proficiency for the initial NSQ A/R qualified ARO/IRO/LM, to the duties of a inflight refueling observer utilizing NVD's.

Requirement. The ARO/IRO/LM will prepare the cargo compartment for night systems operations and perform duties as an inflight refueling observer utilizing night vision goggles. An NSI ARO/IRO/LM will evaluate the initial qualification flight.

Prerequisite. AR-211, and SNSQ-380, SNSQ-381, SNSQ-382.

NSO-384                      3.0                      C R 1 KC-130 A/S

Goal. Introduce the ARO/IRO/LM to the special tasks and difficulties associated with the conduct of RGR procedures utilizing NVD's.

Requirement. Under the direction of a rapid ground refueling qualified NSI ARO/IRO/LM, the ARO/IRO/LM while utilizing NVD's, will conduct a night RGR, minimum 2 point setup, including an actual transfer of fuel. Instruction will be given on inspection and configuration of all associated gear, normal procedures, safety, and breakdown of the system. The ARO/IRO/LM will man, and perform all duties associated with manning, a refueling point during the fuel transfer portion(s) of the RGR evolution.

Prerequisite. Ground training PER the MAWTS-1 NVG Use and Aro/iro/lm NVG Operations ASP's and qualification in SNSQ-382 is required prior to this event.

NSO-385                      2.0                      C.R                      1 KC-130 A N

Goal. Introduce the ARO/IRO/LM in temporary landing zone operations utilizing night systems.

Requirement. The ARO/IRO/LM will prepare the cargo compartment for night systems operations and perform duties as an aft lookout during the ingress and egress to a temporary landing zone. During the TLZ evolution, the ARO/IRO/LM will perform the duties of primary aro/iro/lm for an ERO, or COL. Emphasis will be placed on proper aircraft lighting and safety. An NSI ARO/IRO/LM will evaluate the initial qualification flight.

Prerequisite. ERO-270, COL-271, SNSQ-380.

NSO-386                      2.0                      C.R                      1 KC-130 A N

Goal. Maintain proficiency for the ARO/IRO/LM in flights involving the utilization of NVD's.

Requirement. The ARO/IRO/LM will demonstrate his ability to perform primary ARO/IRO/LM duties utilizing NVD's.

NSO-390                      2.0                      C.R E 1 KC-130 A N

Goal Qualify the ARO/IRO/LM in flights involving the utilization of night systems.

Requirement. The ARO/IRO/LM will demonstrate his ability to perform primary ARO/IRO/LM duties utilizing night systems by repeating NSQ-385 or NSQ-386.

Prerequisite. Minimum of 5 hours of total NVD time must be under low light conditions. SNSQ-380, SNSQ-381, SNSQ-382, NSQ-383, NSQ-384, NSQ-385, and NSQ-386.

Performance Standard. PER TACMAN and MAWTS-1 ASP.

#### 944. FULL COMBAT QUALIFICATION TRAINING

##### 1. Low Altitude Tactics (LAT)

a. Purpose. Qualify the ARO/IRO/LM, or to maintain proficiency for the LAT qualified ARO/IRO/LM, in the unique tasks and requirements associated with low altitude tactics flights in a low to medium ground threat environment.

##### b. General

(1) This phase of instruction may be taught locally PER the MAWTS-1 ASP, or in conjunction with AATTC by, a LAT qualified ARO/IRO/LM Instructor.

(2) Low altitude flight currency restrictions contained within T&R Vol 1, do not apply to this crew position.

c. Ground Training. Ground training will be conducted PER the MAWTS-1 ASP, or as part of the academic portion of AATTC.

##### d. Flight Training (1 Flight 1.0 Hour)

LAT-420	1.0	C.R	1 KC-130	A
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Goal. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the LAT qualified ARO/IRO/LM, in the duties of an aft lookout or rear vision device lookout during a low altitude tactics mission.

Requirement. The ARO/IRO/LM will perform the duties of an aft lookout or rear vision device lookout during a low altitude tactics mission. Emphasis will be placed on cargo compartment preparation, crew briefing, lookout doctrine, scan for threats and terrain clearance, crew coordination and combat entry/exit checklists. This event may include air-to-air refueling, aerial delivery or any type of air/land delivery.

##### 2. Aircraft Survivability Equipment (ASE)

a. Purpose. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the ASE qualified ARO/IRO/LM, in the unique tasks and requirements associated with flights utilizing aircraft survivability equipment in conjunction with low altitude tactics and/or defensive tactics sorties in a high ground/air threat environment.

b. General. This phase will be instructed by an ASE qualified ARO/IRO/LM Instructor.

c. Ground Training. Ground training will be conducted PER the MAWTS-1 ASP.

##### d. Flight Training (1 Flight 1.0 Hour)

ASE-460 1.0 C.R 1 KC-130 A

Goal. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the ASE qualified ARO/IRQ/LM, in the duties of an aft lookout during a flight utilizing aircraft survivability equipment.

Requirement. The ARO/IRO/LM will perform the duties of an aft lookout during a flight involving the use of ASE. Emphasis will be placed on cargo compartment preparation, crew brief, lookout doctrine, scanning for ground/air threats and terrain clearance, crew coordination, combat entry/exit checklists, and systems familiarity. This event may include air-to-air refueling, aerial delivery or any type of air/land delivery in addition to ASE tactics training. This event may include escorts.

Prerequisites. LAT-460.

Performance Standard. PER the TACMAN.

### 3. DEFENSIVE TACTICS (DEFTAC)

a. Purpose. Qualify the ARO/IRO/LM, or to maintain proficiency for the DEFTAC qualified ARO/IRO/LM, in the unique tasks and requirements associated with defensive tactics flights in a low to medium air threat environment.

b. General. This phase of instruction may be taught locally utilizing the MAWTS-1 ASP, or in conjunction with AATTC, by a DEFTAC qualified Aro/iro/lm Instructor.

c. Ground Training. Ground training shall be conducted PER the MAWTS-1 ASP, or as part of the academic portion of AATTC.

d. Flight Training (1 Flight. 1.0 Hour)

DEFTAC-461 1.0 C,R 1 KC-130 A

Goal. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the DEFTAC qualified ARO/IRO/LM, in the duties of an aft lookout or rear vision device lookout during a defensive tactics mission.

Requirement. The ARO/IRO/LM will perform the duties of an aft lookout or rear vision device lookout during a flight involving the use of defensive tactics. Emphasis will be placed on cargo compartment preparation, crew briefing, lookout doctrine, scan for air threats and terrain clearance, crew coordination and combat entry/exit checklists. This event may include air-to-air refueling, aerial delivery or any type of air/land delivery in addition to defensive tactics training. This event may include escorts.

### 4. Night Systems qualification (NSO)

a. Purpose. Introduce and qualify the ARO/IRO/LM, or to maintain proficiency for the NSQ qualified ARO/IRO/LM, in NVD employment.

b. General. This phase of instruction shall be conducted by an NSI ARO/IRO/LM.



c. Ground Training. Ground training will be successfully completed PER the MAWTS-1 NVG use and ARO/IRO/LM NVG operations ASP's prior to the Conduct of the flight syllabus sortie.

d. Flight Training (2 Flights. 4.0 Hours)

NSO-480                      2.0                      C.R              1 KC-130              A    N

Goal. Introduce the ARO/IRO/LM, or to maintain proficiency for the initial NSQ LLNAV qualified ARO/IRO/LM, to the duties of aft lookout in the low level environment utilizing NVD's.

Requirement. The ARO/IRO/LM will prepare the cargo compartment for night systems operations and perform duties as an aft lookout during a night low level utilizing night vision goggles. Emphasis will be on preflight briefing, route study, light level issues, terrain clearance, terrain feature identification, and crew coordination. An NSI ARO/IRO/LM will evaluate the initial qualification flight.

Prerequisite. LL-220, SNSQ-380, SNSQ-381, and SNSQ-382.

NSO-481                      2.0                      C.R              1 KC-130              A    N

Goal. Introduce the ARO/IRO/LM, or to maintain proficiency for the NSQ AID qualified ARO/IRO/LM, to perform aerial delivery procedures utilizing NVD's.

Requirement. The ARO/IRO/LM will prepare the cargo compartment for night systems operations and perform duties as a primary ARO/IRO/LM during a static personnel, CDS or HALO/HAHO airdrop utilizing night vision goggles. An NSI ARO/IRO/LM will evaluate the initial qualification flight.

Prerequisite. SNSQ-380, SNSQ-381, and SNSQ-382.

External Syllabus Support. AD Platoon, ANGLICO, RECON or other external support will be required dependent on the type of airdrop to be conducted.

## 950. INSTRUCTOR FLIGHT/SIMULATOR PERFORMANCE REQUIREMENTS

### 1. ARO/IRO/LM Instructor

a. Purpose. Qualify an ARO/IRO/LM to instruct ARO/IRO/LM trainees in all assigned areas of responsibility.

b. General. This sortie will be evaluated by the Squadron NATOPS Instructor.

c. Ground Training. The IUT academic syllabus PER the MAWTS-1 ARO/IRO/LM ASP will be successfully completed prior to the check flight.

d. Flight Training (1 Flight 4.0 Hours)

CK-590                      4.0                      E    1 KC-130              A

Goal. IUT check flight.

Requirement. ARO/IRO/LM will demonstrate the ability to instruct a ARO/IRO/LM in all responsibilities and duties for specific level of training in the KC-130 F/R/T aircraft.

Prerequisite. The ARO/IRO/LM IUT candidate will be a CK-490 NATOPS qualified 7382 ARO/IRO/LM with a minimum of 1,000 total flight hours in the KC-130 F/R/T aircraft.

## 2. NATOPS Instructor

a. Purpose. Qualify a ARO/IRO/LM as a NATOPS/Assistant NATOPS Instructor.

b. General. This sortie will be evaluated by the NATOPS Evaluator.

c. Ground Training. Prior to this sortie the evaluatee will successfully complete both the Open and Closed-book NATOPS tests.

d. Flight Training (1 Flight, 4.0 hours)

CK-591                      4.0                      E 1KC-130    A

Goal. NATOPS Instructor Evaluation Flight.

Requirement. The ARO/IRO/LM will demonstrate the ability to evaluate a student, refresher or conversion ARO/IRO/LM in all facets of the duties of an ARO/IRO/LM on the KC-130F/R/T.

Prerequisite. CK-590.

## 3. Night Systems Instructor

a. Purpose. Certify the ARO/IRO/LM Instructor as a Night Systems Instructor (NSI) capable of safely conducting ground and airborne ARO/IRO/LM night systems training leading to night systems qualification as outlined in MCO 3500.15.

b. General

(1) The KC-130 NSI ARO/IRO/LM Certification Course is developed by MAWTS-1 and administered by a MAWTS-1 Instructor or squadron NSI ARO/IRO/LM.

(2) A MAWTS-1 Instructor will conduct the certification flight.

(3) Upon NSI certification by MAWTS-1, the NSI designation can be made by the squadron commanding officer.

c. Ground Training. As published in the MAWTS-1 Course Catalog and Aro/iro/im Academic Support Package.

d. Prerequisites

(1) Designated KC-130 Aro/iro/lm Instructor.

(2) Night Systems Qualified and current PER MOO P3500.15.

(3) Minimum 25 hours total HuG hours of which at least 10 hours should be low light level HuG time.

e. Flight Training (1 Flight. 2.0 Hours)

NSI-592                      2.0                      E 1 KC-130 A N

Goal. Demonstrate proficiency in the instructional skills required to conduct ARO/IRO/LM Night Systems Qualification Training.

Requirement. The NSI candidate will plan, brief, instruct, critique and document an ARO/IRO/LM initial or low light level NSQ training event in conjunction with a WTI Major Evolution or Final Exercise (FINEX) sortie, or squadron night T&R syllabus sortie event.

Prerequisite. The NSI ARO/IRO/LM candidate will have successfully completed the NSI ARO/IRO/LM academic syllabus and have completed a minimum of two IUT build-up flights from the low light level ARO/IRO/LM NSQ syllabus as listed in the MAWTS-1 Course Catalog prior to certification flight.

#### 4. Weapons and Tactics Aircrew Instructor

a. Purpose. certify the KC-130 ARO/IRO/LM Instructor as a Weapons and Tactics Aircrew Instructor capable of safely conducting ground and airborne instruction in the KC-130 ARO/IRO/LM Combat Qualification and Full Combat Qualification flight syllabus as outlined in MCO P3500.1S.

b. General. The KC-130 WTACI Course is developed by MAWTS-1 and is conducted in conjunction with the WTI Course. upon graduation, the candidate will be certified by MAWTS-1 as a WTACI ARO/IRO/LM. WTACI designation can be made by the squadron commanding officer.

c. Ground Training. As published in the MAWTS-1 Course Catalog.

d. Flight Training (1 Flight. 2.0 Hours)

WTI-593                      2.0                      E 1 KC-130 A

Goal. Demonstrate proficiency of the instructional skills required to conduct ARO/IRO/LM tactical training in the Combat Qualification and Full Combat Qualification stages of training.

Requirement. The WTACI candidate will plan, brief, instruct, critique and document a ARO/IRO/LM tactical training event in conjunction with a WTI Major Evolution or Final Exercise (FINEX) sortie.

Prerequisite. The WTACI candidate will complete a minimum of three IUT build-up flights in conjunction with specific and common phases of WTI flight phase prior to the certification flight as listed in the MAWTS-1 Course Catalog.

#### 951. SPECIAL FLIGHT REOUIREMENTS

##### 1. Movement Control

a. Purpose. Qualify the ARO/IRO/LM to plan, stage, and execute a multi-aircraft lift of a squadron size unit.

b. General. Qualified ARO/IRO/LM Instructors will instruct this phase of training.

## c. Ground Training (1 Event)

MC-600 0.0 C.RS

Goal. The ARO/IRO/LM will assist embarkation personnel of a deploying squadron-size unit in arranging suitable aircraft loads.

Requirement. The loads will be properly prepared for air shipment and staged for sequential pick-up. The ARO/IRO/LM will act as liaison between aircraft crews and embarkation personnel. Emphasis will be placed on overall planning to allow for advance party, enroute maintenance capability, and pickup of rear echelon and maintenance gear. The ARO/IRO/LM shall be the ARO/IRO/LM on the last aircraft departing the embarkation point.

Prerequisites. CK-490.

## 2. Search and Rescue (SAR)

a. Purpose. Qualify the ARO/IRO/LM on search and rescue missions.

b. Flight Training (1 Flight. 2.0 Hours)

SAR-650 2.0 C.R 1 KC-130 A

Goal. Introduce the ARO/IRO/LM to search and rescue missions.

Requirement. The ARO/IRO/LM will perform all duties on a search and rescue mission. Emphasis will be placed on search and rescue techniques, inflight deployment of the URU-13 liferaft, radio duties (i.e., liaison between ship/aircraft) as on scene commander, and other duties as may be directed by plane commander.

Prerequisites. OW-250, AD-340 and AD-341.

Standards. PER the TACMAN.

## 3. Jet Assisted Take-Off

a. Purpose. Introduce the duties of a ARO/IRO/LM during a JATO take-off.

b. General. This sortie will be instructed by JATO qualified instructors.

c. Flight Training (1 Flight. 0.5 Hour)

JAT-670 0.5 C.R 1 KC-130 A

Goal. Introduce the ARO/IRO/LM to the duties required during a jet assisted take-off.

Requirement. The ARO/IRO/LM will complete a weight and balance form DD 365-4 utilizing the appropriate section of the load adjuster with attention to the type bottles and the expended ordnance section for computation of landing weight. The ARO/IRO/LM will be appropriately stationed during the firing of the bottles to determine safe light-off of all bottles. The ARO/IRO/LM will be responsible for jettisoning of the expended bottles at the plane commander's direction.

## 960. EXPENDABLE ORDNANCE REQUIREMENTS

## BASIC I CONVERSION

ORDNANCE	100 SERIES	200 SERIES	300 SERIES	400 SERIES	REFRESHER	ANNUAL
MK-45 Flares or LUU-2 Flares	---	---	36	---	---	NOTE

NOTE: Annual requalification may be accomplished through ground simulation.

9-40

## T&amp;R MANUAL, VOLUME 2

AIRCRAFT: KC-130                      MOS: 7300/7382                      CREW POSITION: ARO/IRO/LM  
                  TRAINING                      REFLY  
STAGE                      CODE                      HRS                      INTERVAL                      CRP                      T                      C                      R                      E                      REMARKS

## LOAD SIMULATOR TRAINING (LST)

CPL	100	0.0	*	1.0	x				S
	101	0.0	*	1.5	x				S
	102	0.0	*	1.5	x				S
	103	0.0	*	1.5	x				S
	104	0.0	*	1.5	x				S

## COMBAT CAPABLE TRAINING

AR	110	2.0	*	0.5	x				
FWAR	111	2.0	*	1.0	x				
HAR	112	2.0	*	1.0	x				
AR	113	2.0	*	0.5	x				
AR	114	2.0	*	2.0	x			x	
FAM	115	4.0	*	1.0	x				
	116	4.0	*	1.0	x				
	117	4.0	*	2.0	x			x	
OW	150	6.0	*	0.5	x				
	151	6.0	*	1.0	x				
	152	6.0	*	1.0	x				
	153	6.0	*	1.0	x				
	154	6.0	*	2.0	x			x	
AD	140	1.0	*	0.5	x				
RGR	170	0.0	*	0.5	x				S
CK	190	4.0	*	7.5	x			x	

## COMBAT READY TRAINING

CPL	200	2.0	6	1.0	x	x		A S
	201	2.0	6	1.0	x	x	A S	
	202	2.0	6	1.0	x	x		
	203	2.0	6	1.0	x	x		

AR	210	2.0	12	0.5	x	x	N (N)
	211	2.0	12	0.5	x	x	
	212	2.0	12	1.0	x	x	
LLNAV	220	1.0	12	1.0	x	x	
AD	240	1.0	6	1.0	x	x	
OW	250	6.0	12	1.0	x	x	
ERO	270	0.0	6	1.0	x	x	S/A (N)
COL	271	0.0	6	1.0	x	x	S/A (N)

Figure 9-1.--MOS 7381/7382 Refly Interval, Combat Readiness Percent

T&R MANUAL, VOLUME 2

AIRCRAFT: KC-130		MOS: 7300/7382		CREW POSITION:		ARO/IRO/LM			
TRAINING		REFLY							
<u>STAGE</u>	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
SAR	650	2.0				x	x		
JAT	670	0.5				x	x	x	
CK	690	4.0	12	0.0		x	x	x	(N)

Figure 9-1.--MOS 7381/7382 Refly Interval, Combat Readiness Percentage.

## ARO/IRO/LM FLIGHT UPDATE CHAINING

FLIGHT	<u>FLIGHTS</u> <u>UPDATED</u>
200	
201	
202	201,200
203	202,201,200
210	
211	210
212	
220	
240	
250	
270	
271	
272	
273	272
290	203,202,201,200
340	
341	
342	
343	
344	
345	344
370	272
371	370,273,272
380	
381	273,272
382	
383	211,210
384	273,272
385	
386	
390	
420	220
460	
461	
480	220
481	
590	
591	590,290
593	
594	
600	
650	
670	
690	

Figure 9-2.--MOS 7381/7382 Flight Update Chaining.



T&R MANUAL VOLUME 2

CHAPTER 10

KC-130 FLIGHT MECHANIC

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\* \* NOTE \* \*

Aircrew coordination shall be briefed before all flights and/or events.

MARINE AERIAL REFUELING SQUADRON - KC-130  
UNIT TEMPLATE

## NOTE

The capabilities defined and described in the core capability and unit template sections are provided to ensure each like squadron maintains a common base of training and depth of capabilities. When resources permit, and when in the judgement of the commander additional training would significantly increase the unit's warfighting capability, training to a level above these base capabilities is permitted. It is incumbent upon, and expected of, the commander to balance any increase in the depth of core capabilities against the long term health and readiness of his unit while staying within his resource constraints.

## 1. TABLE OF ORGANIZATION

PAA-12 A/C: 26 TPC/16 T2P or T3P/23 NAV/25 F ENG/24 LOADM/24 F MECH

## 2. SQUADRON CORE CAPABILITY

a. A core capable squadron is able to sustain the following minimum performance on a daily basis during sustained contingency/combat operations, assuming 100% PAA, 90% in reporting status and 90% T/O on hand in all MOS's. If < 90%, core capability will be degraded by a like percentage. The extent to which a core capable squadron is able to surge beyond its core capability is situation dependent.

b. A core capable squadron is able to sortie two divisions (-) of mission capable aerial refueling aircraft and within four hours of landing, sortie two more sections or sortie three sections of mission capable assault support aircraft and within four hours of landing, sortie two more sections. Perform the above from either a main base location or appropriate sized expeditionary airfield. All aircraft are capable of aerial and rapid ground refueling, assault support and two platforms being DE/IRCM equipped.

3. BASIC AIRCREW QUALIFICATIONS. As a minimum, in order to be considered Core Competent, a squadron must possess the following numbers of aircrew Who are at least 75% complete in each listed core skill.

CORE SKILLS	CREWS	REMARKS
RW/FW AR	12	
RGR	8	
TLZ/EAF	8	
AD	6	
FORM	12	
LONG RANG NAV	12	
LOW LEVEL	6	

## 4. REQUIRED CORE SKILLS AND SORTIES

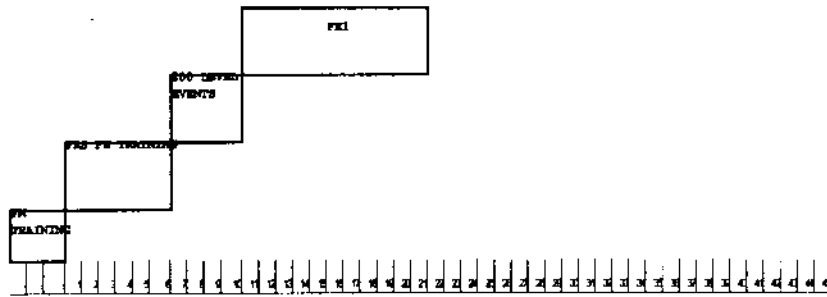
## 4. REQUIRED CORE SKILLS AND SORTIES

	RW/PW AR	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL
1st TOUR	4	1	1	1	2	1	2
T&R CODES	210,211 212,213	273	270	240	230,231	250	220,221

5. SORTIES REQUIRED TO MAINTAIN CORE SKILLS. For each twelve month period after achieving competency, a Flight Mechanic would be required to fly the following number of sorties in each skill area to maintain that competency.

	RW/PW AR	RGR	TLZ/EAF	AD	FORM	LR NAV	LOW LEVEL
AIRCREW	4	1	1	1	2	1	2

# KC-130 FLIGHT MECH CORE PROGRESSION MODEL



10-1.--Flight Mechanic Notional Training Progression Model

## 1000. PROGRAMS OF INSTRUCTION (P01) FOR BASIC FLIGHT MECHANIC

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-5	NACCS	NAS Pensacola, FL
6-10	KC-130 Flight Mechanic Ground	FREST
18-24	FRS Flight Phase	Training Squadron
25-31	Full Combat Qualification	Tactical Squadron

1001. P01 FOR REFRESHER FLIGHT MECHANIC

<u>WEEKS</u>	<u>COURSE/PHASE</u>	<u>ACTIVITY</u>
1-6	Combat Capable Training	Training Squadron

## 1002. P0I FOR CONVERSION FLIGHT MECHANIC (KC-130 F-R-T)

<u>WEEKS</u>	<u>COURSES/PHASE</u>	<u>ACTIVITY</u>
1	Combat Capable Training	Tactical Squadron

1010. GROUNO TRAINING

Electrical Systems  
 Proper Application of External Power  
 Proper Operation of GTC/ATM  
 Electrical Systems Component Removal/Reinstallation  
 Fuel Systems  
 Bleed Air/Anti-icing Systems  
 Bleed Air Systems Component Removal/Reinstallation  
 Air Conditioning/Pressurization Systems  
 Air Conditioning System Component Removal/Reinstallation  
 Hydraulic Systems  
 Hydraulic System Component Removal/Reinstallation  
 Air Refueling System  
 Air Refueling System Component Removal/Reinstallation  
 Landing Gear/Tires/Brake Systems  
 Landing Gear/Tires/Brake System Component Removal/Reinstallation  
 Propulsion Systems  
 Propulsion System Component Removal/Reinstallation  
 Propulsion System Rigging  
 Quality Assurance and Maintenance Practices  
 Scheduled Inspections and Maintenance Practices

## 1011. COURSES OF INSTRUCTION

<u>COURSE / PHASE</u>	<u>ACTIVITY</u>
Naval Aircrew Candidate Course	NAS Pensacola, FL
Fleet Replacement Enlisted Skills Training	MCAS Cherry Pt, NC
KC-130 Flight Mechanic Maintenance Course	MCAS Cherry Point, NC
Weapons and Tactics Course (WTI)	MAWTS-1 Yuma, AZ
Advanced Airlift Tactics Training Course	St. Joseph, MO.
Survival, Evasion, Resistance and Escape	NAS Brunswick, ME
	NAS North Island, CA

## 1012. SQUADRON LEVEL TRAINING

Aerial Refueling  
 Low Levels  
 Formation  
 Aerial Delivery  
 Formation Low Level  
 Temporary Landing Zones  
 Low Level Refueling  
 Overwater ICAO  
 Division Formations  
 Division Refueling  
 Low Altitude Tactics/Formation  
 Rapid Ground Refueling  
 Aerial Delivery  
 Temporary Landing Zones Unimproved  
 Aerial Delivery (Flares)  
 Aircraft Survivability Equipment (ASE)/Defensive Tactics (DEFTAC)  
 Assisted Take-off (ATO))  
 Nuclear Weapons Transportation Training  
 NVG Training

## 1020. FLIGHT TRAINING BASIC FLIGHT MECHANIC

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Familiarization	13	52.0	55.0
Flight Mechanic Evaluation	1	4.0	5.0
	14	56.0	60.0

## 2. Combat Ready Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Administrative Flights	2	4.0	2.0
Air Refueling	4	12.0	4.0
Low Level	2	5.0	2.0
Format ion	2	6.0	2.0
Air Delivery	1	3.0	1.0
Over Water ICAO	1	8.0	1.0
Temporary Landing Zone	1	3.0	1.0
Rapid Ground Refueling	1	2.0	1.0
Functional Check Flight	1	2.0	1.0
	15	45.0	15.0

## 3. Combat Qualification Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Level Aerial Refueling	4	12.0	4.0
Division Air Refueling	2	16.0	4.0
Aerial Delivery	2	6.0	3.0
ASE	1	2.0	1.0
Temporary Landing Zone	2	4.0	4.0
Rapid Ground Refueling	1	2.0	2.0
NATOPS Check	1	8.0	2.0
	13	50.0	20.0

## 4. Full-Combat qualification

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>	<u>PERCENT</u>
Low Altitude Tactics	3	7.0	3.0
DEFTAC		6.0	2.0
	6	13.0	5.0
TOTAL	48	164.0	100.0

## 1021. REFRESHER FLIGHT MECHANIC

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Familiarization	13	52.0
NATOPS Evaluation	1	4.0
	14	56.0

## 1022. CONVERSION FLIGHT MECHANIC

## 1. Combat Capable Training

<u>STAGE</u>	<u>FLIGHTS</u>	<u>HOURS</u>
Systems Review	4.0	16.0

1030. SIMULATOR TRAINING. Not applicable.

## 1040. FLIGHT PERFORMANCE REQUIREMENTS

1. Purpose. Familiarize the student flight mechanic in correct procedures for: turnaround inspections (preflight/postflight) servicing, engine start, taxi, runup, takeoff, cruise, descent, landing and securing, and normal and emergency procedures.

2. Ground Training. Each aircraft system introduced in the combat capable stage requires a minimum of 4.0 hours ground instruction, unless otherwise noted.

3. Aircrew Coordination. Aircrew coordination shall be briefed for all flights and/or events.

## 1041. COMBAT CAPABLE TRAINING

## 1. Familiarization

a. Purpose. Familiarize the student with the duties and procedures of the flight mechanic per current instructions.

b. General. Flight engineer instructor will instruct student on all flights in this stage.

c. Ground Training. Prior to each flight, 4.0 hours of ground instruction are required.



GFAM-100

8.0

R 1 KC-130 S

Goal. Introduce the student to turnaround inspections (preflight/postflight) 1 squadron SOP, normal and emergency procedures.

Requirement. Flight engineer instructor will instruct student flight mechanic on correct turnaround inspections (preflight/postflight), squadron SOP, normal and emergency procedures per current instructions.

Performance Standard. The student flight mechanic will be familiar with turnaround inspections (preflight/postflight) squadron SOP, normal and emergency procedures per current instructions.

d. Flight Training (13 Flights 52.0 Hours)

FAN-100

4.0

R 1 KC-130 A

Goal. Refine the student to turnaround inspections (preflight/postflight)

Requirement. Flight engineer instructor will instruct Student flight mechanic on correct turnaround inspections (preflight/postflight) per current instructions.

Performance Standard. Upon completion, the student flight mechanic will be familiar with turnaround inspections (preflight/postflight) per current instructions.

Prerequisite. GFAM-100.

FAM-101

4.0

R. C 1 KC-130 A

Goal. Familiarize the student flight mechanic on aircraft engine and GTC/APU systems.

Requirement. Flight engineer instructor will instruct the student flight mechanic on aircraft engines.

Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft engines, operation, possible malfunctions, and component locations.

FAM-102

4.0

R 1 KC-130 A

Goal. Familiarize the student flight mechanic on aircraft propeller systems.

Requirement. Flight engineer instructor will instruct the student flight mechanic on aircraft propeller systems.

Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft propellers, operation, possible malfunctions, and component locations.

- FAM-103            4.0                    R   C   1 KC-130   A
- Goal. Familiarize the student flight mechanic on aircraft electrical systems.
- Requirement. Flight engineer instructor will instruct the student flight mechanic on aircraft electrical systems.
- performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft electrical systems operation, possible malfunctions, and component locations.
- FAM-104            4.0                    R. C   1 KC-130   A
- Goal. Familiarize the student flight mechanic on aircraft bleed air and anti-icing/de-icing systems.
- Requirement. Instructor flight engineer will instruct the student flight mechanic on aircraft bleed air and anti-icing/de-icing systems.
- Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft bleed air and anti-icing/de-icing systems operation, possible malfunctions, and component locations.
- FAM-105            4.0                    R. C   1 KC-130   A
- Goal. Familiarize the student flight mechanic on aircraft fuel system.
- Requirement. Instructor flight engineer will instruct the student flight mechanic on aircraft fuel systems.
- Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft fuel systems, their operation, possible malfunctions and component locations.
- FAN-106            4.0                    R   1 KC-130   A
- Goal. Familiarize the student flight mechanic on aircraft hydraulic systems.
- Requirement. Instructor flight engineer will instruct the student flight mechanic on hydraulic systems.
- Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft hydraulic systems, their operation, possible malfunctions, and component locations.
- FAM-107            4.0                    R. C   1 KC-130   A
- Goal. Familiarize the student flight mechanic on aircraft air conditioning and pressurization and oxygen systems.
- Requirement. Instructor flight engineer will instruct student flight mechanic on aircraft air conditioning/pressurization systems.

Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft air conditioning/pressurization Systems, operation, possible malfunctions, and component locations.

FAN-108

4.0 R. C 1 KC-130 A

Goal. Familiarize the student flight mechanic on aircraft communication and navigation Systems.

Requirement. Instructor flight engineer will instruct student flight mechanic on aircraft communication and navigation systems.

Performance Standard. Upon completion, the student flight mechanic will be familiar with aircraft communication/navigation systems, operation, possible malfunctions, and component locations.

FAM-109

4.0 R 1 KC-130 A

Goal. Familiarize the student flight mechanic on aerial refueling systems, procedures, and observer duties.

Requirement. Instructor flight engineer will instruct student flight mechanic on aircraft aerial refueling systems and observer duties.

Performance Standard. Upon completion, the student flight mechanic will be familiar with aerial refueling systems, operation, possible malfunctions, component locations and observer duties.

CK-110

4.0 R 1 KC-130 A

Goal. Evaluate the student flight mechanic on aerial refueling procedures and observer duties.

Requirement. Instructor flight engineer will evaluate the student flight mechanic on aerial refueling procedures and observer duties.

performance Standard. Upon completion, the student flight mechanic will be familiar with aerial refueling procedures and qualified as an aerial refueling observer.

FAN-111

4.0 R 1 KC-130 A

Goal. Familiarize the student flight mechanic on low level operations per current instructions.

Requirement. Instructor flight engineer will instruct the student flight mechanic on low level operations per current instructions.

Performance Standard. Upon completion, the student flight mechanic will be familiar with low level procedures per current instructions.

FAM-112 4.0 R 1 KC-130 A

Goal. Review previous instructions as necessary.

Requirement. Instructor flight engineer will review all previous instructions as necessary.

## 2. Flight Mechanic Evaluation

a. Purpose. Evaluate the student flight mechanic per NATOPS procedures.

b. General. Flight mechanic evaluation will be conducted during this stage.

c. Flight Training (1 Flight, 4.0 Hours)

CK-190 4.0 R E 1 KC-130 A

Goal. NATOPS evaluation.

Requirement. NATOPS instructor/evaluator will evaluate student flight mechanic per NATOPS procedures. Remain overnight (RON) flight is preferred.

performance Standard. Qualified per NATOPS.

## 1042. COMBAT READY TRAINING

### 1. Administrative Flight

a. Purpose. Maintain flight mechanic proficiency on administrative flights.

b. Flight Training (2 flights. 4 Hours)

FM-200 2.0 1 KC-130 A

Goal. Maintain proficiency in normal and emergency procedures during day flight operations.

Requirement. Review normal and emergency procedures during day flight operations per current instructions.

FM-201 2.0 1 KC-130 A N

Goal. Maintain proficiency in normal and emergency procedures during night flight operations.

Requirement. Review normal and emergency procedures during night flight operations per current instructions.

## 2. Aerial Refueling

a. Purpose. Refine flight mechanic in aerial refueling missions per current instructions.

b. Flight Training (4 Flights 12.0 Hours)

AR-210 3.0 1 KC-130 A

Goal. Refine fixed wing aerial refueling procedures.

Requirement. Review normal and emergency aerial refueling procedures and observer duties PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

AR-211 3.0 1 KC-130 A N

Goal. Introduce and refine night fixed wing aerial refueling procedures.

Requirement. Review normal and emergency aerial refueling procedures and observer duties at night PER KC-130 TACMAN and AR Manual. Use of EMOON procedures is optional.

Prerequisite. AR-210.

AR-212 3.0 1 KC-130 A

Goal. Refine helicopter aerial refueling procedures.

Requirement. Review normal and emergency helicopter refueling procedures and observer duties PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

AR-213 3.0 1 KC-130 A N

Goal. Introduce night helicopter aerial refueling procedures.

Requirement. Review normal and emergency helicopter refueling procedures and observer duties at night PER KC-130 TACMAN and AR Manual. Use of EMCON procedures is optional.

prerequisite. AR-212.

## 3. Low Level

a. Purpose. Train the flight mechanic in low level procedures.

b. Flight Training (2 Flights 5.0 Hours)

LL-220 2.0 1 KC-130 A

Goal. Refine low level procedures.

Requirement. Fly a low level route PER KC-130 TACMAN procedures.

LL-221 3.0 1 KC-130 A N

Introduce. Introduce night low level procedures.

Requirement. Fly a night low level route PER KC-130 TACMAN procedures.

Prerequisite. LL-220.

#### 4. Formation

a. Purpose. Train the flight mechanic in formation procedures.

b. Flight Training (2 Flights. 6.0 Hours)

FORM-230 3.0 2 KC-130 A

Goal. Proficiency training in formation procedures.

Requirement. Fly a two plane formation flight PER NATOPS and TACMAN.

FORM-231 3.0 2 KC-130 A N

Goal. Introduce night section formation.

Requirement. Fly a two plane night formation flight PER NATOPS and TACMAN.

Prerequisite. FORM-230.

#### 5. Aerial Delivery

a. Purpose. Refine the flight mechanic in aerial delivery procedures per current instructions.

b. Flight Training (1 Flight. 3.0 Hours)

AD-240 3.0 1 KC-130 A

Goal. Refine aerial delivery procedures.

Requirement. Fly and review aerial delivery mission of cargo or troops PER TACMAN.

#### 6. Overwater ICAO Environments

a. Purpose. Refine the flight mechanic in extended overwater procedures.

b. Flight Training (1 Flight. 8.0 Hours)

OWICAO-250 8.0 1 KC-130 A

Goal. Refine extended overwater procedures.

Requirement. Fly an extended overwater flight and review over-water procedures placing emphasis on mission planning and aircraft preparation.

## 7. Temporary Landing Zones

a. Purpose. Train the flight mechanic on temporary landing zones.

b. Flight Training (1 Flight. 3.0 Hours)

TLZ-270                    3.0                    1 KC-130    A

Goal. Introduce TLZ procedures at improved fields.

Requirement. Introduce maximum effort takeoffs and landings at improved field PER TACMAN.

## 8. Rapid Ground Refueling

a. Purpose. Train the flight mechanic in rapid ground refueling.

b. Flight Training (1 Flight 2.0 Hours)

RGR-273                    2.0                    1 KC-130    A

Goal. Train the FM in rapid ground refueling.

Requirement. Conduct rapid ground refueling with actual aircraft engines running PER NATOPS and TACMAN.

## 9. Functional Check Flight

a. Purpose. Maintain proficiency in functional check flight procedures.

b. Flight Training (1 Flight. 2.0 Hours)

FCF-280                    2.0                    1 KC-130    A

Goal. Maintain proficiency in functional check flight procedures.

Requirement. Review normal and emergency procedures during a functional check flight profile A, B, C, or D with emphasis on all in-flight FCF duties.

## 1043. COMBAT QUALIFICATION TRAINING

## 1. Low Level Aerial Refueling

a. Purpose. Train flight mechanic in low level refueling procedures.

b. Flight Training (4 Flights. 12.0 Hours)

LLAR-310                    3.0                    1-2 KC-130    A

Goal. Introduce fixed wing low level aerial refueling procedures.

Requirement. Fly low level aerial refueling mission PER TACMAN and AR Manual. EMCON procedures are optional.

Prerequisite. AR-210, LL-220.

- LLAR-311            3.0                    1-2 KC-130    A    N
- Goal.    Introduce fixed wing low level aerial refueling procedures at night.
- Requirement.   Fly night low level aerial refueling mission PER TACMAN and AR Manual.    EMCON procedures are optional.
- Prerequisite.   AR-211, LL-221.
- LLAR-312            3.0                    1-2 KC-130    A
- Goal.    Introduce low level helicopter refueling procedures.
- Requirement.   Fly a low level helicopter refueling mission PER TACMAN and AR Manual.
- Prerequisite.   AR-212, LL-220.
- LLAR-313            3.0                    1-2 KC-130    A    N
- Goal.    Introduce low level helicopter refueling procedures at night.
- Requirement.   Fly a low level helicopter refueling mission for proficiency at night PER TACMAN and AR Manual.
- Prerequisite.   AR-213, LL-221.

## 2.   Formation Aerial Refueling

a.   Purpose.    Train the flight mechanic in overland and overwater multiplane aerial refueling procedures.

b.   Flight Training    (2 Flights. 16.0 Hours)

- OLAR-314            8.0                    2 or more KC-130's    A
- Goal.    Train overland multi-plane aerial refueling procedures.
- Requirement.   Conduct overland multi-plane aerial refueling PER NATOPS, TACMAN and AR Manual.
- Prerequisite.   AR-220, FORM-230.
- OWAR-315            8.0                    2 or more KC-130's    A
- Goal.    Train overwater multiplane aerial refueling.
- Requirement.   Conduct overwater multiplane aerial refueling PER NATOPS, TACMAN and AR Manual.
- Prerequisite.   AR-220, FORM-230, OWICAO-250.



## 3. Aerial Delivery (Illumination Flares)

a. Purpose. Train the flight mechanic in aerial delivery (illumination flare) procedures.

b. Flight Training (1 Flight. 3.0 Hours)

AD-343                      3.0                      KC-130    A    N

Goal. Introduce aerial delivery of illumination flare procedures.

Requirement. Conduct aerial delivery of illumination flares PER TACMAN.

## 4. Aerial Delivery

a. Purpose. Train the flight mechanic in aerial delivery procedures.

b. Flight Training (1 Flights. 3.0 Hours)

AD-340                      3.0                      1 KC-130    A

Goal. Train short look procedures.

Requirement. Fly day or night low level to aerial delivery PER

TACMAN. Introduce low-high-low profile with modified slowdown aerial delivery procedures.

Prerequisite. LL-220, AD-240.

## 5. Aircraft survivability Equipment (ASE)

a. Purpose. Train the flight mechanic in Aircraft Survivability Equipment.

b. Flight Training (1 Flights. 2.0 Hours)

ASE-360                      2.0                      1 KC-130    A

Goal. Train the flight mechanic duties in the ASE environment.

Requirement. Conduct and train in ASE procedures. Train ground loading procedures, system setup and operation, and operate ASE systems in flight to actually fire flares or chaff. Emphasis on evasive flight techniques and lookout doctrine in coordination with ASE employment. Flight on ASE range preferred.

Prerequisite. ASE-260.

## 6. Temporary Landing Zones

a. Purpose. Train the flight mechanic in short field operations.

b. Flight Training (2 Flights. 4.0 Hours)

TLZ-370                    2.0                    1 KC-130    A

Goal. Introduce short field operations.

Requirement. Introduce takeoffs and landings at unimproved airfields PER NATOPS and TACMAN.

Prerequisite. TLZ-270.

TLZ-371                    2.0                    KC-130    A    N

Goal. Introduce night short field operations.

Requirement. Review takeoffs and landings at improved or unimproved airfields at night PER NATOPS and TACMAN.

Prerequisite. TLZ-370.

## 7. Rapid Ground Refueling

a. Purpose. Train the flight mechanic in rapid ground refueling.

b. Flight Training (2 Flights. 4.0 Hours)

RGR-373                    2.0                    1 KC-130    A    N

Goal. Train the flight mechanic in rapid ground refueling.

Requirement. Conduct rapid ground refueling with actual aircraft engines running PER NATOPS and TACMAN.

## 8. Annual Requalification Check

a. Purpose. Conduct an annual requalification and standardization check.

b. Flight Training (1 Flight. 8.0 Hours)

CK-390                    8.0                    R    E    1 KC-130    A

Goal. NATOPS annual requalification.

Requirement. NATOPS evaluator/assistant NATOPS instructor shall evaluate the flight mechanic for NATOPS procedures. RON is preferred.

Performance Standard. Flight Mechanic shall meet the standards as set forth in the current KC-130 NATOPS manual for qualification.

## 1044. FULL COMBAT QUALIFICATION TRAINING

## 1. Low Altitude Tactics (LAT)

a. Introduction. All flight mechanics shall be trained and qualified in LAT procedures. Initial training and certification shall be conducted by a flight engineer WTACI. Once designated LAT qualified, flight mechanics need only maintain proficiency to fly LAT missions.

b. Purpose. Train the flight mechanic in low altitude tactics.

c. Flight Training (3 Flights. 7.0 Hours)

LAT-432                    2.0                    1 KC-130    A

Goal.    Introduce low altitude tactics.

Requirement.    Introduce terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN.

Prerequisite.    LL-220.

LAT-433                    2.0                    2 KC-130    A

Goal.    Refine low altitude tactics.

Requirement.    Review terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN. Introduce section LAT.

Prerequisite.    LAT-432.

LAT-434                    3.0                    R 1 KC-130    A

Goal.    Qualify the flight mechanic in low altitude tactics.

Requirement.    Review terrain masking, ridgeline crossings, and lookout doctrine PER TACMAN.

Performance Standard. Performs all required duties during LAT PER NATOPS and KC-130 Tactics Manual

Prerequisite.    LAT-433.

## 2. Defensive Tactics (DEFTAC)

a. Purpose. Refine the flight mechanic duties in Defensive Tactics procedures.

b. Instructor Requirements. DEFTAC shall be instructed by an WTACI.

c. Flight Training (3 Flights. 6.0 Hours)

DEFTAC-460                2.0                    1 KC-130 & 1 Adversary    A

Goal.    Train aircrews in defensive tactics.

Requirement.    Introduce defensive maneuvers with emphasis on hard turns, break turns, maneuvering velocity, and lookout doctrine.

Prerequisite. IAT-434.

DEFTAC-461      2.0      1 KC-130 & 1 Adversary    A

Goal. Train aircrews in defensive tactics.

Requirement. Refine procedures covered in DEFTAC-361.

Prerequisite. DEFTAC-460.

DEFTAC-462      2.0      1 KC-130. 2 Adversaries    A

Goal. Train aircrews in defensive tactics.

Requirement. Refine defensive maneuvering with two adversaries. Emphasis shall be placed on briefing, conduct of flight, and lookout doctrine.

Prerequisite. DEFTAC-461.

## 1050. SPECIAL MISSIONS

### 1. Transportation of Nuclear Weapons

a. Purpose. Qualify aircrews in procedures to properly transport nuclear weapons.

b. General. Must be assigned to the PRP.

c. Flight Training (1 Flight. 4.0 Hours)

CPL-600      4.0      1 KC-130    A

Goal. Train aircrews in the transportation of nuclear weapons.

Requirement. Introduce nuclear weapons loading Procedures, restrictions, special safety, and emergency procedures.

### 2. Night Systems Operations

a. Purpose. Introduce and qualify the flight mechanic in Night Systems (NS) operations, or to maintain proficiency for NSQ flight mechanics, and to review concepts associated with night visual phenomena.

b. General. The NSQ syllabus consists of (NVG-601, 610, 620, 621, 640, 670). NSQ flight mechanics shall be designated by the squadron Commanding Officer.

(1) Prior to starting the NSQ syllabus flight mechanics must be proficient in the respective 200 series code. All ground training shall be completed prior to flight training and NVG-601 shall be completed prior to all other NSQ codes.

(2) Upon completion of the NSQ syllabus the flight mechanic need only meet prerequisites and proficiency required of each sortie. If this refly interval is exceeded, the sortie may be reflown with a current NSQ or NSI flight engineer, loadmaster, or flight mechanic.

(3) Light level requirements for each sortie are identified in the requirement description of each sortie. These light level requirements pertain to the first time this sortie is flown.

c. Instructor Requirements. Shall be in accordance with MCO P3500.14. Any NSJ may instruct the ground portion. A flight engineer or loadmaster NSI may instruct the flight portion up to NVG-690. Final NSQ evaluation (NVG-690) shall be conducted by a flight engineer NSI.

d. Ground Training

(1) NITE lab.

(2) Night Systems ASP (developed by MAWTS-1).

3. Night Systems Familiarization

a. Purpose. To familiarize the flight mechanic with Night Systems operations.

b. Flight Training (1 Flight. 1.5 Hours)

NVG-601                      1.5                      1 KC-130    A    N

Goal Introduce the flight mechanic to KC-130 Night Systems and the use of NVG's in the KC-130.

Requirement High light level conditions. Emphasis will be on donning of the NVG's, taxi procedures, aborts, take-offs, cargo compartment orientation, landings, aircraft ground reversing operations, aircraft lighting, aircraft night systems, and NVG aircrew coordination.

4. Night Systems Air Refueling

a. Purpose. Provide flight training and qualify the flight mechanic in basic night systems air refueling operations and to review concepts associated with night visual phenomena.

b. Flight Training (1 Flight. 1.5 Hours)

NVG-610                      1.5                      1 KC-130    A    N

Goal. Introduce the flight mechanic to fixed wing or rotary wing aerial refueling operations utilizing NVG's.

Requirement. Low or high light level conditions. Conduct a rendezvous with fixed wing or rotary wing receivers and perform refueling emphasizing aircrew coordination, rendezvous and refueling procedures. Rendezvous and refueling altitudes shall be in accordance with T&R Manual, Volume 1, and the NATOPS Air Refueling Manual. Use of EMCON procedures is optional.

Prerequisite: AR-211, NVG-601

5. Night Systems Low Level Navigation

a. Purpose. Provide flight training and qualify the flight mechanic in basic night systems low level navigation operations and to review concepts associated with night visual phenomena.

## b. Flight Training (2 Flights 3.0 Hours).

NVG-620            1.5                    1 KC-130    A    N

Goal. Conduct a low level navigation route while utilizing the NVG's.

Requirement. High light level conditions. Fly a night low level navigation route of at least 6 checkpoints utilizing NVG's. Altitudes shall be in accordance with T&R volume 1 for NVG accommodation and establishment of comfort level. The student shall be in the flight mechanic's seat. Emphasis will be on point to point navigation, crew coordination, lookout doctrine and voice procedures.

Prerequisite LL-221, NVG-601

NVG-621            1.5                    1 KC-130    A    N

Goal. Conduct a low level navigation route in low light level conditions while utilizing the NVG's.

Requirement. Low light level conditions. Fly and debrief a night low level navigation route of at least 6 checkpoints utilizing NVG's. Altitudes shall be in accordance with T&R volume 1 for NVG accommodation and establishment of comfort level. The student shall be in the flight mechanic's seat. Emphasis will be on crew coordination and contrast between high and low light level conditions.

Prerequisite. NVG-620.

## 6. Night Systems Low Altitude Tactics

a. Purpose. Introduce, qualify, and train the flight mechanic in LAT in the night systems environment.

## b. Flight Training (1 Flight. 1.5 Hours)

NVG-622            1.5                    1 KC-130    A    N

Goal. Conduct LAT while utilizing the NVG's.

Requirement. The flight is to be conducted in two phases. First phase introduces flying at comfort level, terrain masking, ridge line crossings, lookout doctrine, break turns, hard turns and climb to cope. Second phase to be conducted at comfort level. Practice flying at comfort level, terrain masking, lookout doctrine, and climb to cope. Hard and break turns shall not be flown in this phase of flight.

Prerequisite. NVG-690, NSI on board and LAT-334.

## 7. Night Systems Formation

a. Purpose. Provide flight training and qualify aircrew in basic night systems formation operations and to review concepts associated with night visual phenomena.

## b. Flight Training (1 Flight. 1.5 Hours)

NVG-630                    1.5                    1 KC-130    A    N

Goal. Introduce the flight mechanic to formation flight utilizing HUG's.

Requirement. High or low light level. Fly a formation flight, practicing lead and trail position flying utilizing NVQ's.

Prerequisite. NVG-690, NSI on board and FORM-231.

## 8. Night Systems Aerial Delivery

a. Purpose. Provide flight training and qualify aircrew in basic night systems aerial delivery operations and to review concepts associated with night visual phenomena.

## b. Flight Training (1 Flight 1.5 Hours)

NVG-640                    1.5                    1 KC-130    A    N

Goal. Train the flight mechanic in aerial delivery mission procedures in the NS environment.

Requirement. High or low light level. Conduct an aerial delivery mission using NVG's. Utilize a low-high-low profile when possible. Emphasis shall be on checklist employment and crew coordination. This sortie has a 12 month refly factor and updates NVG-601. NVG-620 is also updated when using a low-high-low profile.

Prerequisite: AD-240, NVG-601; NVG-620 for low-high-low profile.

## 9. Night Systems Aircraft Survivability Equipment

a. Purpose. Provide flight training and qualify aircrew in basic night systems aircraft ASE operations and to review concepts associated with night visual phenomena.

## b. Flight Training (1 Flight. 1.5 Hours)

NVG-660                    1.5                    1 KC-130    A    N

Goal. Conduct ASE operations while utilizing NVG's.

Requirement. High or low light level. Flight shall be conducted on a suitable range and either flares, chaff, or both shall be expended in response to a real or simulated threat. Emphasis shall be on aircrew coordination during the defensive/evasive maneuver phases of flight.

Prerequisite: ASE-360, NVG-601

## 10. Night Systems Temporary Landing Zone Operations

a. Purpose. Provide flight training and qualify aircrew in basic night systems temporary landing zone operations and to review concepts associated with night visual phenomena.

## b. Flight Training (2 Flights 3.0 Hours)

NVG-670 1.5 1 KC-130 A N

Goal. Conduct touch and go landings and full stops at a TLZ while utilizing NVG's.

Requirement. High light level. Takeoffs and landings shall be performed with the student in the flight mechanic's seat. Emphasis shall be on aircrew coordination during the takeoff and landing phases of flight. A minimum of four touch and goes and one full stop should be performed. The TLZ may be improved or unimproved.

Prerequisite: TLZ-270, NVG-601

NVG-671 1.5 1 KC-130 A N

Goal. Conduct TLZ landings in low light conditions while utilizing NVG's.

Requirement. Low light level conditions. A minimum of four touch and goes and one full stop should be accomplished. Emphasis shall be on differences in TLZ operations in low light conditions and TLZ operations in high light level conditions.

Prerequisite. NVG-670.

## 11. Night Systems qualification Check

a. Purpose. Conduct Night Systems Qualification check.

## b. Flight Training (1 Flight. 1.5 Hours)

NSQ-690 1.5 R 1 KC-130 A N

Goal. Qualify the flight mechanic as NSQ.

Requirement. Low or high light level conditions. Demonstrate the required skills to conduct KC-130 night operations using NVG's. The flight mechanic shall have completed the NSQ syllabus and have flown a minimum of 5 NVG hours in low light level conditions with a NSI prior to flying NSQ-690. The flight mechanic to be qualified shall fly a Night Systems sortie. This sortie may be any one of, or a combination of the following: NVG-610, 620, 621, 640, 670.



## 12. Assisted Take Off

- a. Purpose. Train the flight mechanic in assisted takeoffs.
- b. Flight Training (1 Flight. 0.5 Hour)

ATO-695                      0.5                      1 KC-130    A    (N)

Goal. Introduce assisted takeoffs using JATO.

Requirement. Conduct assisted takeoffs using JATO.  
Plan for either burnout at liftoff or burnout at 50 feet.

1060. EXPENDABLE ORDNANCE REQUIREMENTS. Not applicable.

10-24

## T&amp;R MANUAL VOLUME 2

AIRCRAFT: KC-130			MOS: 6030		CREW POSITION:		FLIGHT MECHANIC		
TRAINING			REFLY						
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
COMBAT CAPABLE TRAINING									
FAM	100	4.0	*	4.2			X		
	101	4.0	*	4.2		X	X		
	102	4.0	*	4.2			X		
	103	4.0	*	4.2		X	X		
	104	4.0	*	4.2		X	X		
	105	4.0	*	4.2		X	X		
	106	4.0	*	4.2			X		
	107	4.0	*	4.2		X	X		
	108	4.0	*	4.2		X	X		
	109	4.0	*	4.6			X		N
CK	110	4.0	*	4.2			X		
FAM	111	4.0	*	4.2			X		
	112	4.0	*	4.2			X		
CK	190	4.0	*	5.0			X	X	
COMBAT READY TRAINING									
FM	200	2.0	3	1.0					
	201	2.0	3	1.0					N
AR	210	3.0	6	1.0					
	211	3.0	12	1.0					N
	212	3.0	6	1.0					
	213	3.0	12	1.0					N
LL	220	2.0	12	1.0					
	221	3.0	12	1.0					N
FORM	230	3.0	12	1.0					2 A/C
	231	3.0	12	1.0					2 A/C N
AD	240	3.0	12	1.0					
OWICAO	250	8.0	12	1.0					
TLZ	270	3.0	12	1.0					
RGR	273	2.0	12	1.0					
FCF	280	2.0	12	1.0					
COMBAT QUALIFICATION TRAINING									
LLAR	310	3.0	6	1.0					
	311	3.0	12	1.0					N
	312	3.0	6	1.0					
	313	3.0	12	1.0					N
OLAR	314	8.0	12	2.0					2+ A/C
	315	8.0	12	2.0					2+ A/C
AD	340	3.0	12	2.0					
	343	3.0	12	1.0					N
ASE	360	2.0	12	1.0					
TLZ	370	2.0	12	2.0					
	371	2.0	12	2.0					N
RGR	373	2.0	12	2.0					N
CK	390	8.0	12	2.0				X	

Figure 10-1.--MOS 6030 Refly Interval, Combat Readiness Percentage.

## T&amp;R MAUAL VOLUME 2

AIRCRAFT: MC-130		MOS: 6030 CREW		POSITION: FLIGHT MECHANIC					
TRAINING		REFLY							
STAGE	CODE	HRS	INTERVAL	CRP	T	C	R	E	REMARKS
FULL-COMBAT QUALIFICATION TRAINING									
LAT	432	2.0	12	1.0					
	433	2.0	12	1.0					2 A/C
	434	3.0	12	1.0			x		
DEFTAC	460	2.0	12	0.5					
	461	2.0	12	0.5					
	462	2.0	12	1.0					
SPECIAL SORTIES									
CPL	600	4.0	*	0.0					
									N
NVG	601	1.5	12	0.0					N
	610	1.5	12	0.0					N
	620	1.5	12	0.0					N
	621	1.5	12	0.0					N
	622	1.5	12	0.0					N
	630	1.5	12	0.0					N
	640	1.5	12	0.0					N
	660	1.5	12	0.0					N
	670	1.5	12	0.0					N
	671	1.5	12	0.0					N
NSQ	690	1.5	*	0.0			X	X	N
ATO	695	0.5	*	0.0					(N)

Figure 10-1.--MOS 6030 Refly Interval, Combat Readiness Percentage  
(cont'd)

## MOS 6030 FLIGHT UPDATE CHAINING

<u>FLIGHT</u>	<u>FLIGHTS</u> <u>UPDATED</u>
200	
201	200
210	200
211	200,201,210
212	200
213	200,201,212
220	200
221	200,201,220
230	200
231	200,201,230
240	200
250	200
270	200
273	200
280	200
310	200,210,220
311	200,201,210,211,220, 221,310
312	200,212,220
313	200,201,212,213,220,221,312
314	200,210,230
315	200,201,230,250,314
340	200,201,220,240,340
343	200,201,240,340
360	200
370	200,270
371	200,201,270,370
373	200,201,273
390	200
432	200,220
433	200,220,432
434	200,220,230,432,433
460	200
461	200,460
462	200,460,461
600	200
601	200,201
610	601,200,201,210,211, 212,213
620	601,200,201,220,221
621	601,620,200,201,220,221
622	601,620,200,201,220, 221,432,433,434
630	601,200,201,230,231
640	601,200,201,240,340
660	601,200,201,360,460
670	601,200,201,270,370,371
671	601,670,200,201,270, 370,371
690695	200

Fig 10-2--MOS 6030 Flight Update Chaining